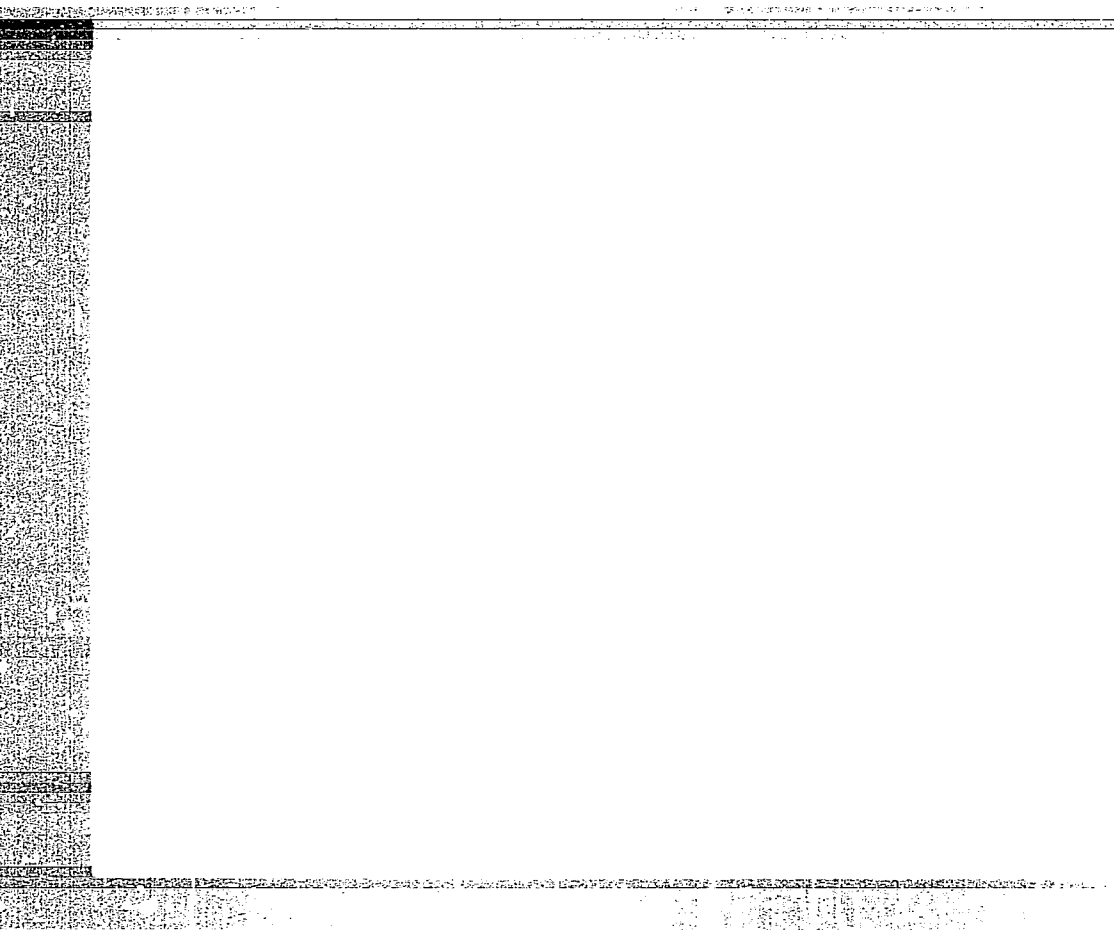


APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110008-1"

KAS'YANOV, V.V., inzh.

Light gravity quay with discharging and screening platforms.
Transp. stroi. 14 no.1:26-29 Ja '64. (MIRA 17:8)

KAS'YANOV, Yo. A.; SAVINOVSKIY, D. V.; Engs.

Steam Boilers

Periodical blowing through of lower boiler tubing. Elek. sta. 24, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

ACC NR: AP7005613 SOURCE CODE: UR/0413/67/000/002/0051/0051

INVENTOR: Germ, A. I.; Kas'yanov, Yu. P.

ORG: none

TITLE: Six-arm waveguide bridge. Class 21, No. 190442.

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 51

TOPIC TAGS: waveguide element, waveguide couple, RECTANGULAR WAVEGUIDE

ABSTRACT: An Author Certificate has been issued for a six-arm waveguide bridge (see Fig. 1) containing three sections of rectangular waveguide. To provide equal division of energy the adjacent walls of the waveguide section have longitudinal slots which form a coupling cavity. A longitudinal metal rod is placed inside the coupling cavity. Orig. art. has: 1 figure. [WP]

Card 1/2 UDC: 621.372.832.6

ACC NR: AP7005613

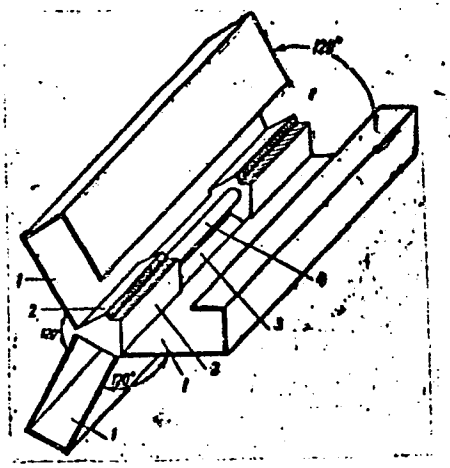


Fig. 1. Waveguide bridge

1 - Rectangular waveguide section; 2 - adjacent narrow walls of the waveguide section; 3 - longitudinal slots; 4 - rod.

SUB CODE: 09/ SUBM DATE: 14Mar64/ ATD PRESS: 5115

Card 2/2

KAS'YANOVA, A.A.; LABAZNIKOV, A.F.; NADLER, Ya.S.; SOPMAN, A.S.

New material for prosthetic devices. Ortop.travm. i protez. 20 no.2:47-48 F '59. (MIRA 12:12)

1. Iz Moskovskogo protezno-ortopedicheskogo zavoda im. K.Marksa (dir. - V.P. Nikiforov).
(PROSTHESIS
laminated polyamide material (Rus))

KAS'YANOVA, A.A., assistent; PAVLOV, S.A., doktor tekhn.nauk prof.

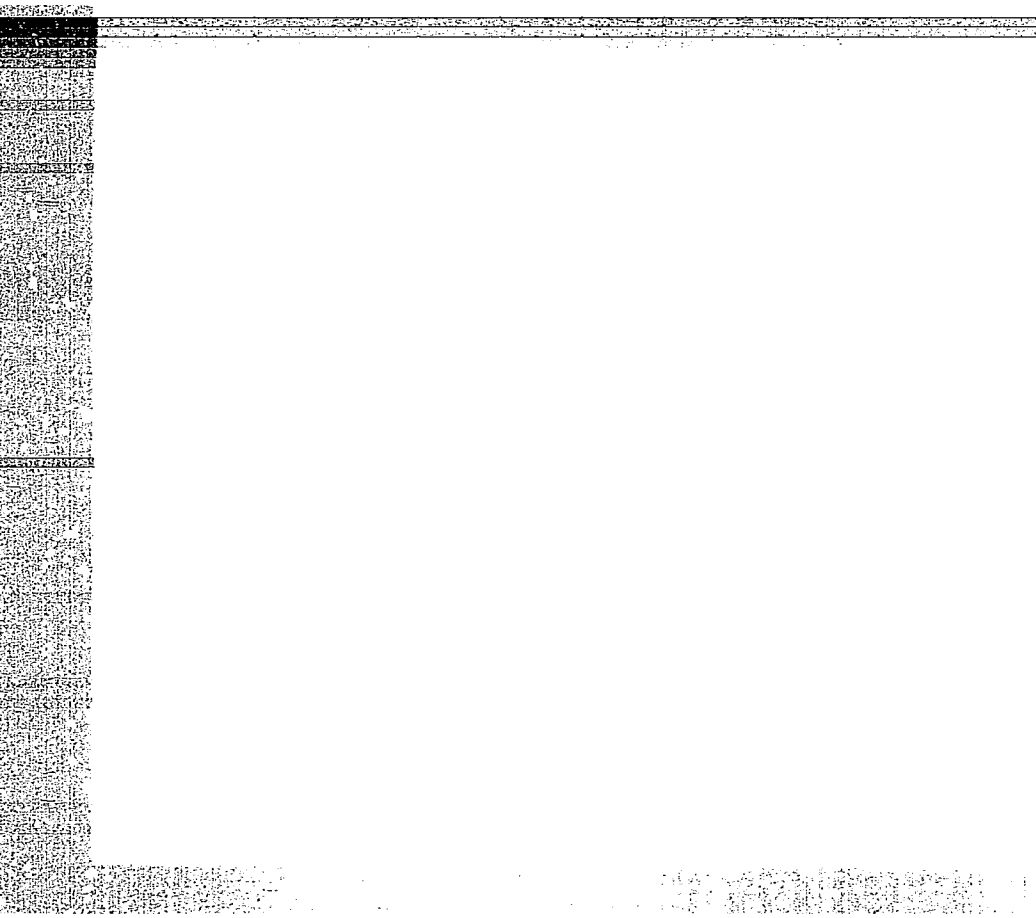
Forming of films from solutions. Izv.vys.ucheb.zav.; tekh.leg. prom. no.5:45-51 '59. (MIRA 13:4)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii iskusstvennoy kozhi.
(Films (Chemistry))

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110008-1"

The work was conducted to learn if the high elasticity of carboxilate rubber could

centration of the polyamide was 10%, and the viscosity of the



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110008-1"

KAS'YANOVA, A.A., assistent; POL'GEYM, L.V., inzh.; SKORNYAKOVA, T.A., inzh.; PAVLOV, S.A., prof., doktor tekhn.nauk

Effect of the molecular weight of polyamide resins on the properties of their solutions and films. Izv.vys.uchob.zav.; tekh.leg.prom. no.6:28-33 '59. (MIRA 13:5)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii iskusstvennoy kozhi.
(Polyamides) (Leather substitutes)

KAS'YANOVA, A.A., inzh.; PAVLOV, S.A., doktor tekhn.nauk, prof.

Effect of the composition of the solvent mixture on the mechanism of the formation of polyamide films. Izv.vys.uchob.zav.; tekh.leg.prom. no.4:25-30 '60. (MIRA 13:10)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii iskusstvennoy kozhi.
(Films (Chemistry)) (Polyamides)

KAS'YANOVA, I.V.

PHASE I BOOK EXPLOITATION 1169

Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki

Novoye v metodike i tekhnike geologorazvedochnykh rabot (New Developments in the Methods and Techniques of Geological Exploration) Leningrad, Gostoptekhizdat, 1958. 423 p. (Series: Its: Sbornik trudov I) 2,000 copies printed.

Additional Sponsoring Agency: USSR Ministerstvo geologii i okhrany nedr.

Eds.: Volosyuk, G.K., Maramzin, A.V., Safronov, N.I., Semenov, A.S.; Executive Ed.: Regina, G.M.; Tech. Ed.: Yashchurzhinskaya, A.B.

PURPOSE: The book is intended for professional geologists and geophysicists.

COVERAGE: This collection of articles reviews geological and geochemical methods of exploration used in the Soviet Union, and the recent achievements in the search of polymetallic deposits in Zabaykal'ye, Rudnyy Altay, and in the Soviet Far Northeast. The first group of articles describes discoveries of mineral deposits and the development of new industrial complexes in the USSR during the last 25 years, the latter based on the discovery of iron ore deposits, coal fields and new oil fields (like the Second Baku, situated between the Urals and the Volga)

Card 1/ 6

New Developments (Cont.)

as well as copper, bauxite, and other mineral deposits. The second group of articles discusses geophysical exploration methods, the modernization of equipment, and the development of new applicances by the All-Union Scientific Research Institute of Surveying Methods and Techniques (VITR). The third group of articles describes a new electrologging method based on oscillatory processes and a physical principle known as the electro-hydraulic effect. It is emphasized that the first air-borne magnetometer used in exploring iron ore deposits was designed by A.A. Logachev in 1935, and that subsequently large parts of the USSR were explored with the aid of AM-9L, AFM-49, AM-11, AM-25 air-borne magnetometers. New gravimeters SN-3 and FAK-3M, variometers Z-40 and S-20, and gradientometers BRV-2GRV-2M (used in detailed mining exploration) were successfully used in industry. New drilling rigs for various depths and different types of rocks and strata have been and are being designed. The text contains numerous illustrations and bibliographic references.

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New Developments (Cont.)

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New Developments (Cont.)

DRILLING EXPLORATION METHODS IN MINING

AVAILABLE: Library of Congress

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MM/gmp
2-27-59

ALBUL, S.P.; ZVONKOVA, M.B.; KAS'YANOVA, I.V.; SUDOV, B.A.

Using hydrochemical methods in prospecting for ore deposits in the Budyumkan Basin (eastern Transbaikalia). Trudy VITR no.3:295-303 '61. (MIRA 15:7)
(Budyumkan Valley--Geochemical prospecting)

GALYAMINA, V.D.; KAS'YANOVA, K.A.

Opisthorchiasis among the population of Kuybyshev. Med.paraz.i paraz.bol. 26 no.6:740-741 N-D '57. (MIRA 13:4)
(KUYBYSHEV--LIVER FLUKE)

KAS'YANOVA, K.A., GLEBOVA, A.A.

Case of dipylidiasis in man. K.A. Kas'ianova, A.A. Glebova. Med. paraz. i paraz. bol. 27 no.2:219 Mr-Ap '58 (MIRA 11:5)

1. Iz parazitologicheskogo otdeleniya sanitarno-epidemiologicheskoy stantsii Kuybysheva.
(TAPEWORMS)

FREYDENZON, Ye.Z.; FREYDENZON, Yu.Ye.; KOTSAR', S.L.; ZATULOVSKAYA, Ye.Z.;
Prinimali uchastiye: KAS'YANOVA, K.S.; MUDRIK, L.Ya.; TIMOFEYEVA,
T.D.; KOTEL'NIKOVA, Z.G.; VOYLOSHNIKOVA, A.I.; VASEVA, R.S.;
GNATYUK, P.I.; MYKOL'NIKOV, A.A.; BURKSER, A.Ye.; PONER, D.M.;
OGORODNIKOV, G.K.

Developing an efficient shape for slab ingots. Stal' 25 no.6:
539-543 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Ye. Freydenzon,
Yu. Freydenzon, Kotsar', Zatulovskaya).

TRANOVICH, Vikentiy Valerianovich; KAS'YANOVA, L., red.; FILIPPOVA, E., red. izd-va; LEBEDEV, A., tekhn. red.

[Payments to the budget from the receipts of amusement enterprises] Platezhi v biudzhet s vyruchki zrelishchnykh predpriiatii. Moskva, Gosfinizdat, 1962. 68 p. (MIRA 15:6)
(Amusements—Taxation)

KAS'YANOVA, L.

The page of our century. Inform.biul. VDNKH no.4:38 Ap '65.
(MIRA 18:5)

KAS'YANOVA, L.

Rejuvenated steel main lines. Inform.biul.VDNKH no.1:32-34 Ja '65.
(MIRA 18:3)

USSR/Cultivated Plants - Potatoes, Vegetables, Melons.

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39334

Author : Kaslyanova, L.A.

Inst : Scientific Research Institute of Agriculture of North-Eastern Rayons of Non-Chernozem Belt.

Title : Methods for the Preparation of Onion Planting for Bringing out Onions Tops in Hothouses.

Orig Pub : Byul. nauchno-tekhn. inform. N.-i. in-ta s. kh. sev.-vost. r-nov nechernozem. polosy, 1957, No 2-3, 33-34.

Abstract : No abstract.

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F-1

USSR/Microbiology - General Microbiology

Abs Jour : Ref Zhur - Biol., No 10, 1958, 43094

Author : Zamukhovskaya, A.N., Shvartsman, L.A., Finkelshteyn, N.R., Kasyanova, L.K.

Inst :

Title : Biological Properties of B. Coli When Cultivated on a Liquid Medium with Aeration.

Orig Pub : Tr. Mosk. n.-i. in-ta vaktsin i syvorotok, 1956, 8, 191-201.

Abstract : No abstract.

Card 1/1

KASYANOVA, L. K.

USSR / Microbiology - General Microbiology. F

Abs Jour: Ref Zhur-Biol., No 9, 1958, 38295.

Author : Shanina-Vagina, V. I., Zamukhovskaya, A. N., Kasyanova, L. K.

Inst : Not given.

Title : A Study of Nutrient Media in Depth Cultivation of Typhoid and Flexner Dysentery Bacilli.

Orig Pub: Nauchn. tr. Mosk. n.-i. in-ta vaktsin i syvorotok, 1956, 8, 277-285.

Abstract: Nutrient media prepared from casein and fish-bone meal hydrolysates by the action of the Aspergillus terricola protease are similar in composition to the commonly used tryptic casein medium, and differ from the latter by the absence of peptones and a larger polypeptide content.

Card 1/2

...YANOVA, L.K.

USSR / Microbiology - Microbes Pathogenic to Humans and Animals F-4

Abs Jour: Referat.Zh.Biol., No. 1, 1958, 729

Author : Petrosyan, E.A., Zelikina, A.Z., Kas'yanova,L.K.

Title : A Chemical Study of Antigen Complex in Sonne Dysentery Bacteria

Orig Pub: Nauchn. tr. Mosk. n.-i. in-ta vaktsin i syvorotok, 1956, 8, 423-441

Abstract: Antigens of Sonne dysentery bacteria obtained from the microbial mass by extraction with trichloracetic acid or by digesting with pancreatin are very similar in their chemical composition, differing only in that the antigens obtained by the first method contain somewhat less total nitrogen. Both these antigens possess high specific and antigenic properties. The antigenic prepara-

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Card 2/3

USSR / Microbiology - Microbes Pathogenic to Humans and Animals F-4

Abs Jour: Referat. Zh. Biol., No. 1, 1958, 729

extraction from microorganisms by trichloracetic acid contains less nitrogen and considerably less reducing substances than antigen obtained in S-form from bacteria by the same method. Antigen from R-form is not precipitated by an antiserum, but in an 0.025 g dose creates protection in mice from 1 Dcl of live culture in 83% of cases. Antigenic preparations obtained from Sonne bacteria in an R-form by other methods are close to antigenic preparations from S-form in chemical composition, but are devoid of specificity and immunogenic properties.

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17(2) SOV/16-59-9-21/47

AUTHORS: Smirnova, Ye.A., Kas'yanova, L.K., and Legat, I.M.

TITLE: A Study of the Possibility of Using Ion Exchanger Resins for Eliminating Ballast Substances From Compound Antigens

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1959, Nr 9, pp 97-100 (USSR)

ABSTRACT: The compound antigens from bacteria of the enteric group, used at present for specific prophylaxis, are prepared by tryptic decomposition of the microbe culture and are purified by hydrodialysis after precipitation with spirit. Hydrodialysis, however, does not purify the antigens sufficiently of mineral impurities and, in an attempt to find a better method of purification the authors turned to ion exchanger resins. Soviet scientists are quoted as evidence that the resins possess purifying properties: F.G. Prokhorov, P. Kreych, G.I. Silin, I.E. Apel'tsin, I.P. Losev, R. Kunin, et al. The tests were carried out with SBS-1 cationite forte and EDE-10-P anionite forte. The test objects were liquid fractions of tryptic hydrolysates of Salmonella typhosa, Salmonella paratyphosa, Shigella flexneri and Shigella sonnei. The results suggested that the period of purifica-

Card 1/2

A Study of the Possibility of Using Ion Exchanger Resins for Eliminating Ballast Substances From Compound Antigens

tion can be cut to 1-2 hours, instead of the 3-4 days required by hydrodialysis. Examination of the purified antigens revealed that they had an ashcontent 6-8 times less than with hydrodialysis, contained more reducing substances and had a higher serological and immunogenic activity. Some rise in toxicity, especially with Shigella sonnei antigen, was noted.
There are: 1 table and 6 Soviet references.

ASSOCIATION: Moskovskiy institut vaktsin i syvorotok imeni Mechnikova (Institute of Vaccines and Sera imeni Mechnikov, Moscow)

SUBMITTED: June 4, 1958

GOLUBEVA, I.V.; PEKHLETSKAYA, V.Ya.; GUSEVA, Yu.I.; KOSSOVA, A.K.; KAS'YANOVA, L.K.

Production of dry standard antigens for the preparation of diagnostic coli-sera. Zhur. mikrobiol. epid. i immun. 31 no.7:127-130 Jl '60. (MIRA 13:9)

1. Iz Moskovskogo instituta vaktsin i syvorotok im. Mechnikova.
(ESCHERICHIA COLI)

SHTUTMAN, M.N.; AVDEYENKO, V.P.; NEUYMIN, Yu.A.; KAS'YANOVA, L.V.; IGNATOVA, M.V.; PEDENKO, V.A.; BUVALITS, A.I.

Precision and reliability of a DFS-10 quantometer at a metallurgical plant. Zav. lab. 31 no.2:247-249 '65. (MIRA 18:7)

1. Magnitogorskiy metallurgicheskiy kombinat.

VOSTOKOVA, Ye.A., VYSHIVKIN, D.D., KAS'YANOVA, M.S., NESVETAYLOVA, N.G., SHVYRYAYEVA, A.M.

Geobotanical evidence of bituminosity. Trudy VAGT no.1:99-117 '55. (MLRA 9:11)
(Phytogeography) (Petroleum) (Prospecting)

KAS'YANOVA, M.S.

Aerial visual geobotanical observations in deserts and semi-deserts. Trudy VAGT no.1:147-151 '55. (MLRA 9:11)
(Phytogeography)

SOV/137-58-7-14606

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 95 (USSR)

AUTHORS: Kas'yanova, N.A., Pervushin, S.A.

TITLE: Sources for Further Rise in Labor Productivity in the Electrolytic Zinc Industry (O rezervakh rosta proizvoditel'nosti truda v tsinkovom elektrolitnom proizvodstve)

PERIODICAL: Sb. nauchn. tr. Mosk. in-t tsvetn. met. i zolota, 1957, Nr 27, pp 239-247

ABSTRACT: Conversion to FluoSolids roast of Zn concentrates results in a decline in sulfide S in the matte to 0.3-0.4%, while the acid-soluble Zn contents rose by 1.5-2% of the total content as compared to roasting in multiple-hearth furnaces. Moreover the matte did not contain any lumps, and the Zn contents of the leaching-products classification sands dropped from 26.7 to 17.5%, making it possible to deliver them to the Waelz process along with the Zn cake instead of returning them for roasting. This leads to a reduction of SiO_2 in the cinders from 9.4 to 5.3%. With 65% of all the Zn concentrates subjected to FluoSolids roasting, labor productivity (LP) rose by 15.7%. It is noted that bringing the electrodes in Zn electrolysis baths to

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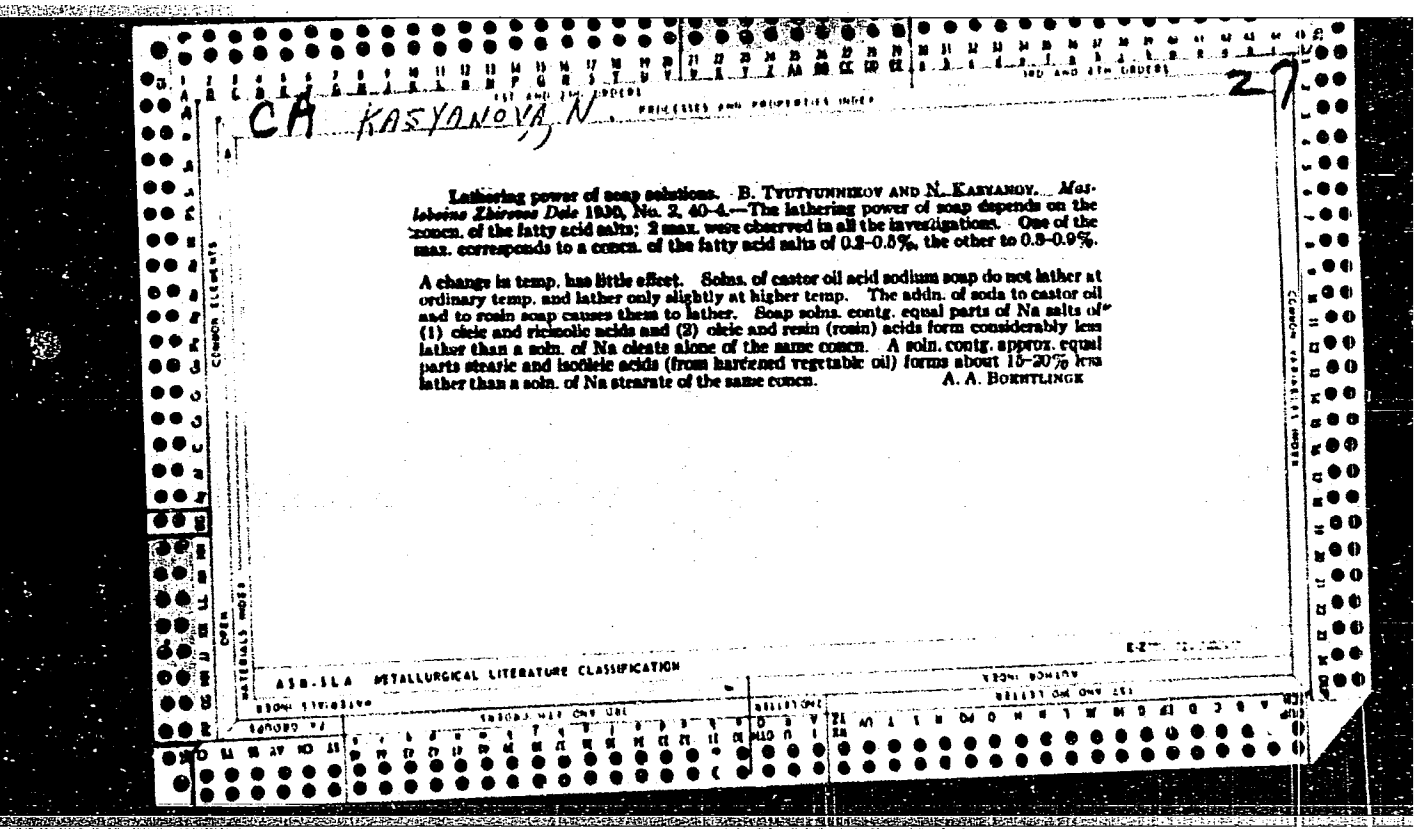
Sources for Further Rise in Labor Productivity (cont.)

within 54 mm of each other and an increase in the cathode surfaces makes it possible to increase LP by 45%. Substitution of cooling coils in the baths by vacuum evaporation as the method of cooling the electrolyte makes it possible to raise the coefficient of bath utilization and to increase LP by 20-25% in addition to raising current efficiency by 2.5-3%. Increase in D to 650-700 amps/m^2, requiring rearrangement of the entire process, is capable of providing a further significant increase in LP.

Ye.Z.

1. Zinc ores--Processing 2. Zinc--Production 3. Electrolysis--Applications

Card 2/2

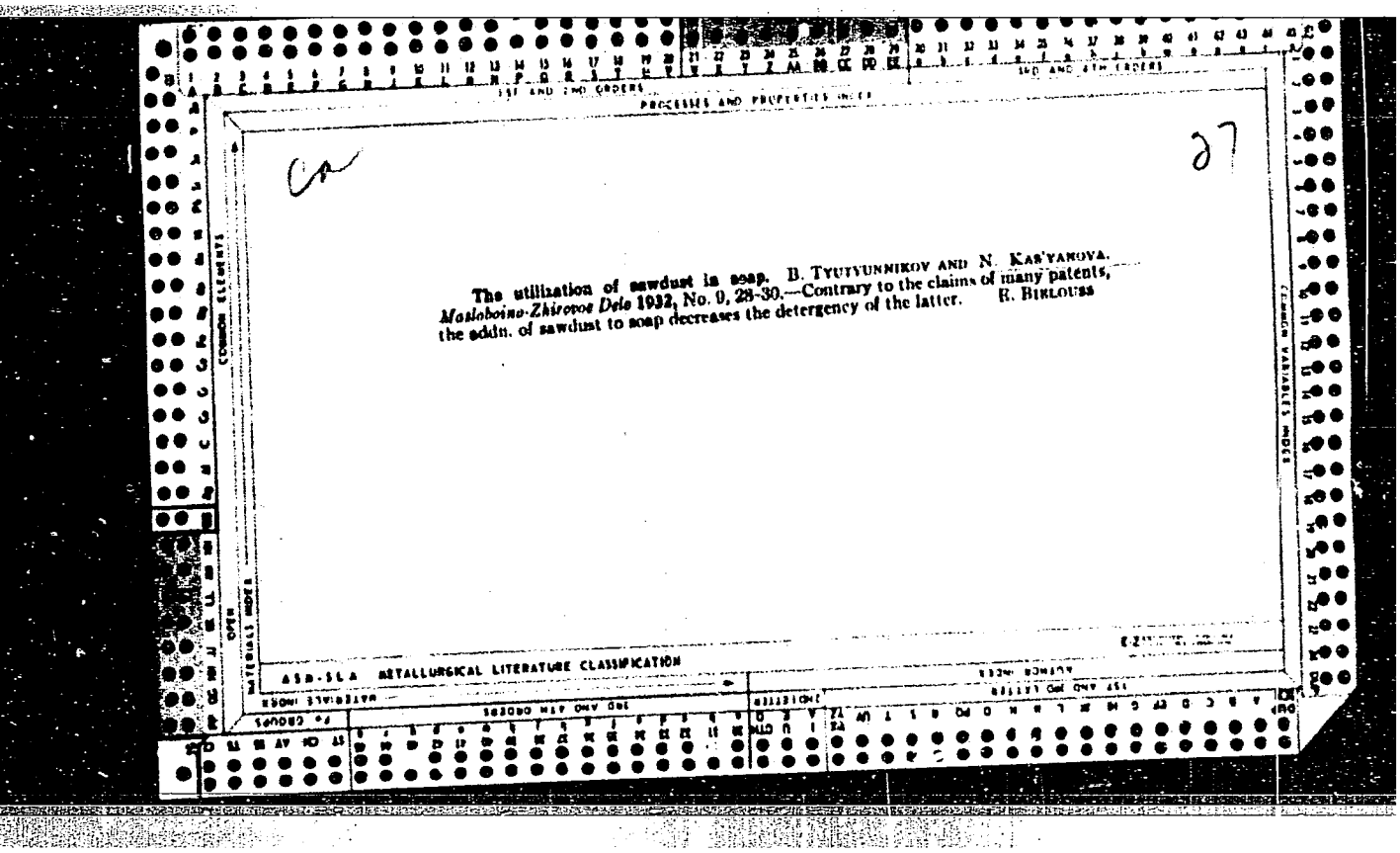


CA KASYANOVA, N.

Lathering power of soap solutions. B. TSUTSUNNIKOV AND N. KASYANOV. *Maslobeino Zhirovoe Delo* 1930, No. 2, 40-4.—The lathering power of soap depends on the concn. of the fatty acid salts; 2 max. were observed in all the investigations. One of the max. corresponds to a concn. of the fatty acid salts of 0.2–0.5%, the other to 0.8–0.9%.

A change in temp. has little effect. Solns. of castor oil acid sodium soap do not lather at ordinary temp. and lather only slightly at higher temp. The addn. of soda to castor oil and to rosin soap causes these to lather. Soap solns. contg. equal parts of Na salts of (1) oleic and ricinolic acids and (2) oleic and resin (rosin) acids form considerably less lather than a soln. of Na oleate alone of the same concn. A soln. contg. approx. equal parts stearic and isooleic acids (from hardened vegetable oil) forms about 15–20% less lather than a soln. of Na stearate of the same concn. A. A. BORNTLINGK

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



The utilization of sawdust in soap. B. TYUTYUNNIKOV AND N. KAS'YANOVA. *Maslobono-Zhirovoe Delo* 1932, No. 9, 28-30.—Contrary to the claims of many patents, the addn. of sawdust to soap decreases the detergency of the latter. R. BIKLOUSS

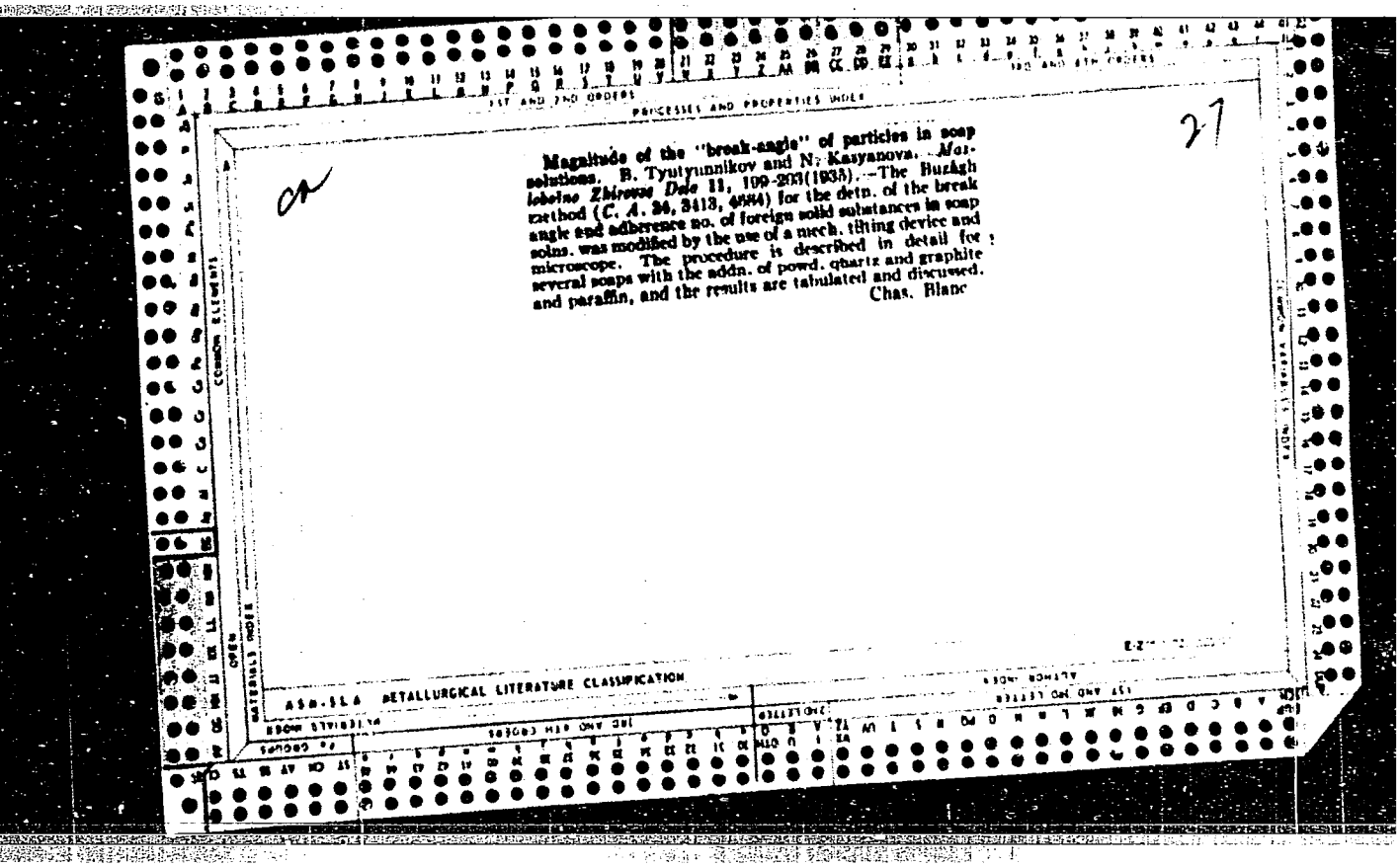
BC

B-II-7

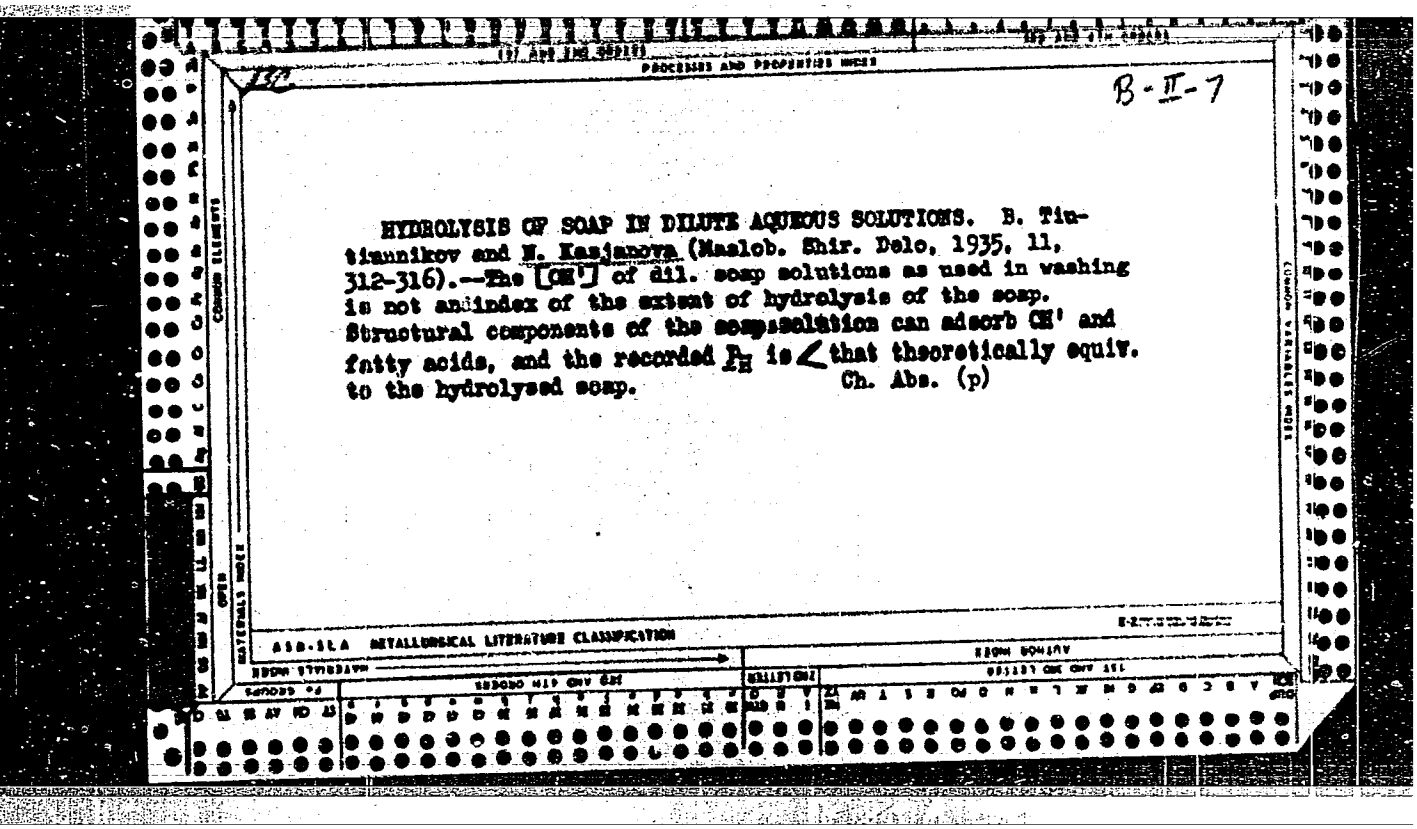
PROCESSES AND PROPERTIES INDEX

Properties of soap solutions. VIII. Hydrolysis of soap in dilute aqueous solutions. B. Tyutyunnikov and N. Kasyanova (Allgem. Oel- u. Fett-Ztg., 1934, 31, [illegible]; cf. B., 1934, 683).—p_H measurements are given, showing that the [OH'] of all soap solutions containing added NaOH or Na_2CO_3 is < that corresponding to the added alkali alone. It is concluded that both OH' (derived by hydrolysis or added as alkali) and fatty acid ions are adsorbed by certain constituents of the soap solution, so that a determination of [OH'] is not a true measure of the amount of soap hydrolysed, which is always > that calc. from the p_H of the solution. The adsorption of OH' by a soap solution of given concn. increases with the amount of added alkali until a certain p_H is attained, after which it suddenly falls. The crit. p_H and the amount of added alkali which is needed to produce it, depend on the nature of the soap. E. L.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

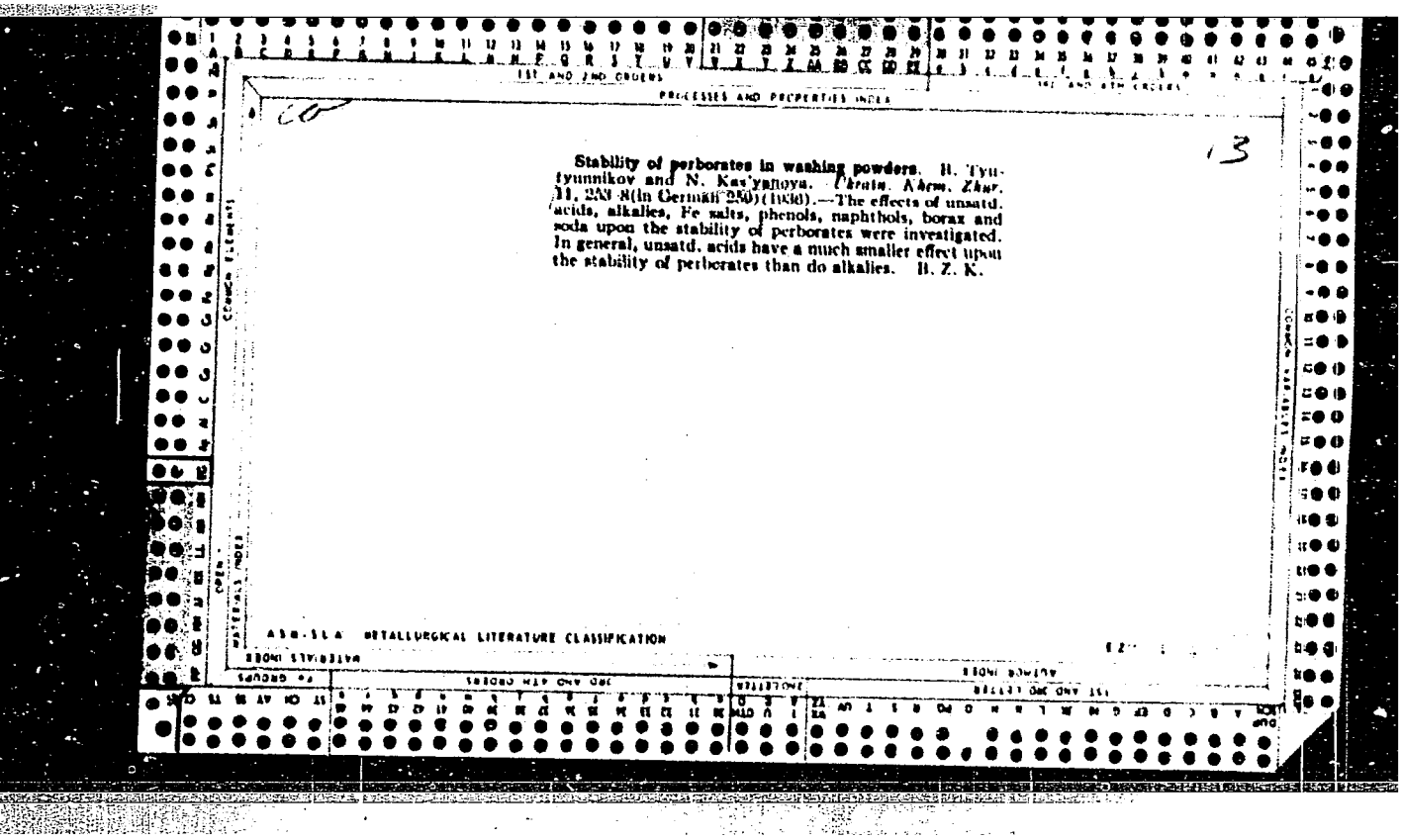


Magnitude of the "break-angle" of particles in soap solutions. B. Tyutyunnikov and N. Kasyanova. *Mas-lobeino Zhirovoe Delo* 11, 199-203(1935).—The Buzágh method (*C. A.* 30, 3413, 4984) for the detn. of the break angle and adherence no. of foreign solid substances in soap solns. was modified by the use of a mech. tilting device and microscope. The procedure is described in detail for several soaps with the addn. of powd. quartz and graphite and paraffin, and the results are tabulated and discussed.
Chas. Blanc



B-II-7

HYDROLYSIS OF SOAP IN DILUTE AQUEOUS SOLUTIONS. B. Tiutiunnikov and N. Kasjanova (Maslob. Shir. Delo, 1935, 11, 312-316).—The [OH'] of dil. soap solutions as used in washing is not an index of the extent of hydrolysis of the soap. Structural components of the soap micelle can adsorb OH' and fatty acids, and the recorded P_H is < that theoretically equiv. to the hydrolysed soap. Ch. Abs. (p)



PROCESSES AND PROPERTIES INDEX

Stability of perborates in washing powders. B. Tyutyunnikov and N. Kas'yanova. *Chrain. Khim. Zhur.* 11, 238-8(in German 250)(1938).—The effects of unsatd. acids, alkalies, Fe salts, phenols, naphthols, borax and soda upon the stability of perborates were investigated. In general, unsatd. acids have a much smaller effect upon the stability of perborates than do alkalies. B. Z. K.

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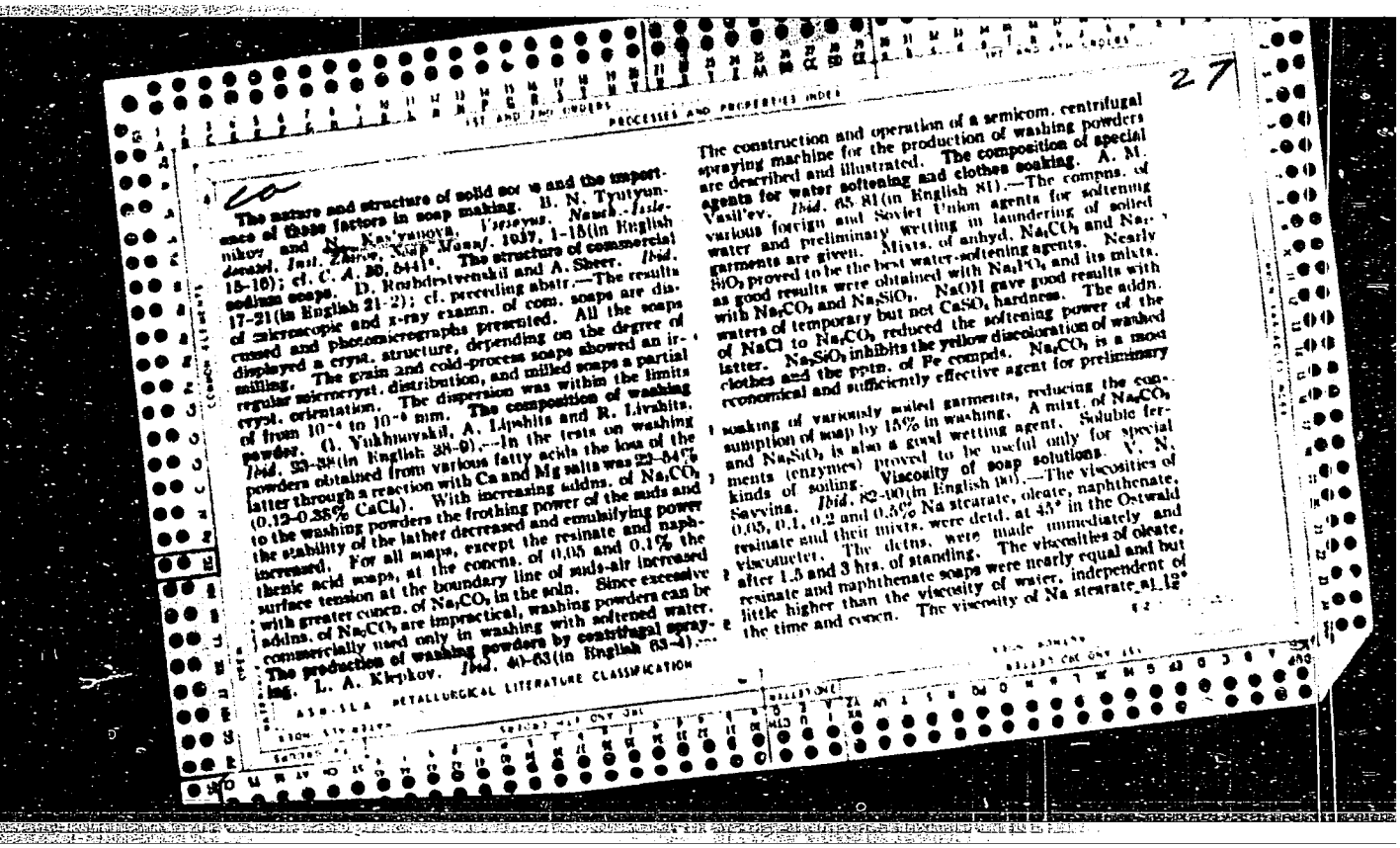
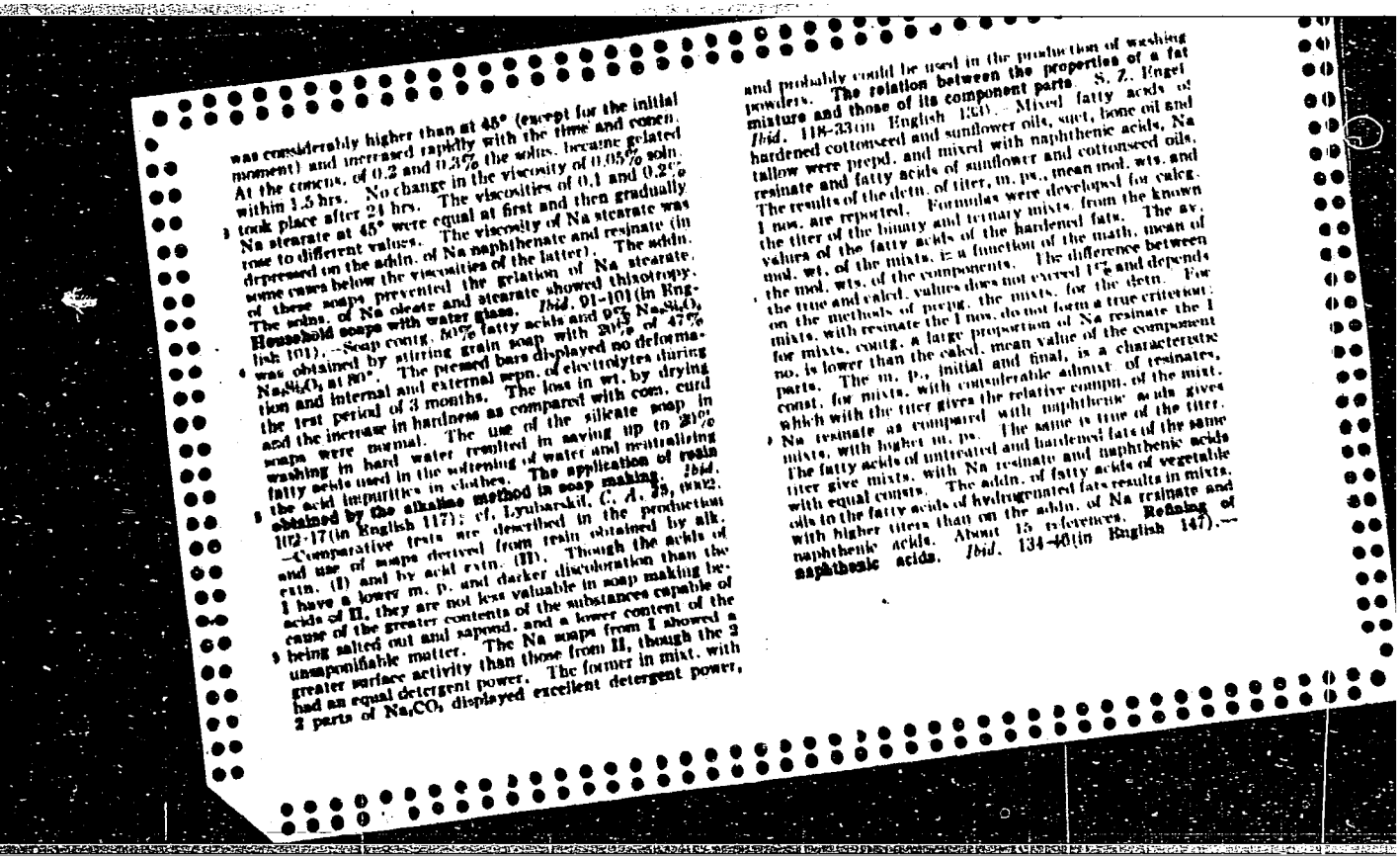
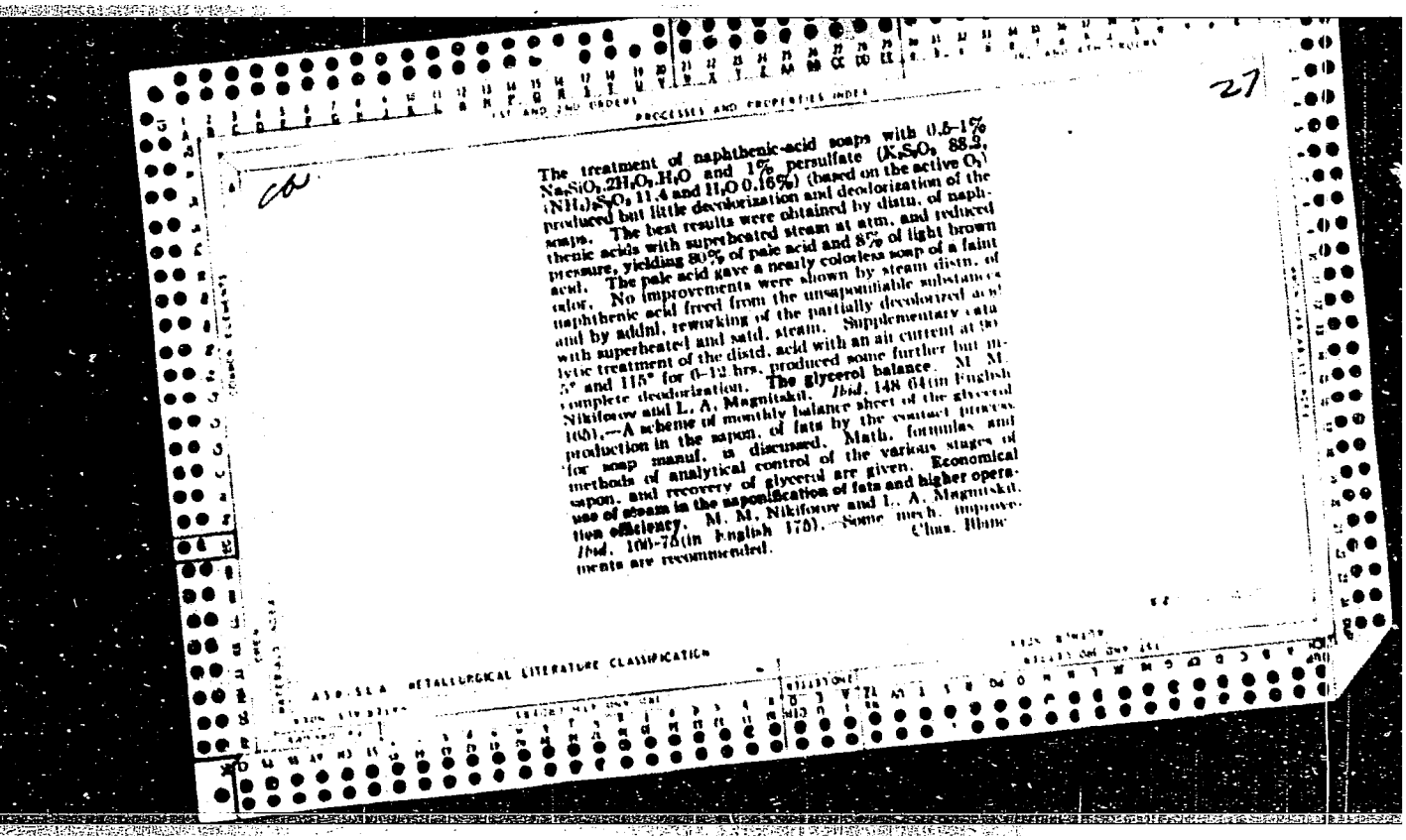
A58-51A METALLURGICAL LITERATURE CLASSIFICATION



The nature and structure of solid soaps and the importance of these factors in soap making. B. N. Tyutyunnikov and N. Kas'yanova. *Vsesoyus. Nauch.-Issledovatel. Inst. Zhirov, Sbor. Nauch. Rabot* 1937, 1-15(in English 15-16); cf. *C. A.* 30, 6441⁹. The structure of commercial sodium soaps. D. Reshetnikovskii and A. Sheer. *Ibid.* 17-21(in English 21-2); cf. preceding abstr.—The results of microscopic and x-ray examn. of com. soaps are discussed and photomicrographs presented. All the soaps displayed a cryst. structure, depending on the degree of milling. The grain and cold-process soaps showed an irregular microcryst. distribution, and milled soaps a partial cryst. orientation. The dispersion was within the limits of from 10^{-4} to 10^{-6} mm. The composition of washing powder. O. Yukhnovskii, A. Lipshits and R. Livshits. *Ibid.* 33-38(in English 38-9).—In the tests on washing powders obtained from various fatty acids the loss of the latter through a reaction with Ca and Mg salts was 22-84% (0.12-0.38% $CaCl_2$). With increasing addns. of Na_2CO_3 to the washing powders the frothing power of the suds and the stability of the lather decreased and emulsifying power increased. For all soaps, except the resinate and naphthenic acid soaps, at the concns. of 0.05 and 0.1% the surface tension at the boundary line of suds-air increased with greater concn. of Na_2CO_3 in the soln. Since excessive addns. of Na_2CO_3 are impractical, washing powders can be commercially used only in washing with softened water. The production of washing powders by centrifugal spraying. L. A. Klepikov. *Ibid.* 61-63(in English 63-4).—The construction and operation of a semicom. centrifugal spraying machine for the production of washing powders are described and illustrated. The composition of special agents for water softening and clothes soaking. A. M. Vasil'ev. *Ibid.* 65-81(in English 81).—The compns. of various foreign and Soviet Union agents for softening water and preliminary wetting in laundering of soiled garments are given. Mixts. of anhyd. Na_2CO_3 and Na_2SiO_3 proved to be the best water-softening agents. Nearly as good results were obtained with Na_3PO_4 and its mixts. with Na_2CO_3 and Na_2SiO_3. NaOH gave good results with waters of temporary but not $CaSO_4$ hardness. The addn. of NaCl to Na_2CO_3 reduced the softening power of the latter. Na_2SiO_3 inhibits the yellow discoloration of washed clothes and the pptn. of Fe compds. Na_2CO_3 is a most economical and sufficiently effective agent for preliminary soaking of variously soiled garments, reducing the consumption of soap by 15% in washing. A mixt. of Na_2CO_3 and Na_2SiO_3 is also a good wetting agent. Soluble ferments (enzymes) proved to be useful only for special kinds of soiling. Viscosity of soap solutions. V. N. Savvina. *Ibid.* 82-90(in English 90).—The viscosities of 0.05, 0.1, 0.2 and 0.5% Na stearate, oleate, naphthenate, resinate and their mixts. were detd. at 45° in the Ostwald viscometer. The detns. were made immediately and after 1.5 and 3 hrs. of standing. The viscosities of oleate, resinate and naphthenate soaps were nearly equal and but little higher than the viscosity of water, independent of the time and concn. The viscosity of Na stearate at 1.2°



was considerably higher than at 45° (except for the initial moment) and increased rapidly with the time and concn. At the concns. of 0.2 and 0.3% the solns. became gelated within 1.5 hrs. No change in the viscosity of 0.05% soln. took place after 24 hrs. The viscosities of 0.1 and 0.2% Na stearate at 45° were equal at first and then gradually rose to different values. The viscosity of Na stearate was depressed on the addn. of Na naphthenate and resinate (in some cases below the viscosities of the latter). The addn. of these soaps prevented the gelation of Na stearate. The solns. of Na oleate and stearate showed thixotropy. **Household soaps with water glass.** *Ibid.* 91–101 (in English 101).—Soap contg. 80% fatty acids and 9% Na_2SiO_3 was obtained by stirring grain soap with 20% of 47% Na_2SiO_3 at 80°. The pressed bars displayed no deformation and internal and external sepn. of electrolytes during the 1st period of 3 months. The loss in wt. by drying and the increase in hardness as compared with com. curd soaps were normal. The use of the silicate soap in washing in hard water resulted in saving up to 20% fatty acids used in the softening of water and neutralizing the acid impurities in clothes. **The application of resin obtained by the alkaline method in soap making.** *Ibid.* 112–17 (in English 117); cf. Lyubarskii, *C. A.* **35**, 1982.—Comparative tests are described in the production and use of soaps derived from resin obtained by alk. extn. (I) and by acid extn. (II). Though the acids of I have a lower m. p. and darker discoloration than the acids of II, they are not less valuable in soap making because of the greater contents of the substances capable of being salted out and sapond. and a lower content of the unsaponifiable matter. The Na soaps from I showed a greater surface activity than those from II, though the 2 had an equal detergent power. The former in mixt. with 2 parts of Na_2CO_3 displayed excellent detergent power, and probably could be used in the production of washing powders. **The relation between the properties of a fat mixture and those of its component parts.** S. Z. Engel *Ibid.* 118–33 (in English 133).—Mixed fatty acids of hardened cottonseed and sunflower oils, suet, bone oil and tallow were prepd. and mixed with naphthenic acids, Na resinate and fatty acids of sunflower and cottonseed oils. The results of the detn. of titer, m. ps., mean mol. wts. and I nos. are reported. Formulas were developed for calcg. the titer of the binary and ternary mixts. from the known values of the fatty acids of the hardened fats. The av. mol. wt. of the mixts. is a function of the math. mean of the mol. wts. of the components. The difference between the true and calcd. values does not exceed 1% and depends on the methods of prepg. the mixts. for the detn. For mixts. with resinate the I nos. do not form a true criterion for mixts. contg. a large proportion of Na resinate the I no. is lower than the calcd. mean value of the component parts. The m. p., initial and final, is a characteristic const. for mixts. with considerable admixt. of resinates, which with the titer gives the relative compn. of the mixt. Na resinate as compared with naphthenic acids gives mixts. with higher m. ps. The same is true of the titer. The fatty acids of untreated and hardened fats of the same titer give mixts. with Na resinate and naphthenic acids with equal contrs. The addn. of fatty acids of vegetable oils to the fatty acids of hydrogenated fats results in mixts. with higher titers than on the addn. of Na resinate and naphthenic acids. About 15 references. **Refining of naphthenic acids.** *Ibid.* 134–40 (in English 147).—



The treatment of naphthenic-acid soaps with 0.5–1% $Na_2SiO_3.2H_2O_2.H_2O$ and 1% persulfate ($K_2S_2O_8$ 88.5, $(NH_4)_2S_2O_8$ 11.4 and H_2O 0.16%) (based on the active O_2) produced but little decolorization and deodorization of the soaps. The best results were obtained by distn. of naphthenic acids with superheated steam at atm. and reduced pressure, yielding 80% of pale acid and 8% of light brown acid. The pale acid gave a nearly colorless soap of a faint color. No improvements were shown by steam distn. of naphthenic acid freed from the unsaponifiable substances and by addnl. reworking of the partially decolorized acid with superheated and satd. steam. Supplementary catalytic treatment of the distd. acid with an air current at 90° and 115° for 6–12 hrs. produced some further but incomplete deodorization. The glycerol balance. M. M. Nikiforow and L. A. Magnitskii. *Ibid.* 148 64 (in English 160).—A scheme of monthly balance sheet of the glycerol production in the sapon. of fats by the contact process for soap manuf. is discussed. Math. formulas and methods of analytical control of the various stages of sapon. and recovery of glycerol are given. Economical use of steam in the saponification of fats and higher operation efficiency. M. M. Nikiforow and L. A. Magnitskii. *Ibid.* 160–75 (in English 176).—Some mech. improvements are recommended. Chas. Blanc

KAS'YANOVA, N. A.

CA

27

Alcoholysis of fats. G. L. Yukhnovskii and N. A. Kas'yanova. *Trudy Khar'kov. Khim.-Tekhnol. Inst. im. S. M. Kirova* 5, 65-76(1945).—The fat (e.g., sunflower oil) is heated to 80° and a 0.75–1.0 *N* soln. of NaOH in abs. MeOH (20% of the wt. of the fat) is added gradually under stirring, then the stirring is continued for a few min. and the mass is allowed to stand 1–3 hrs. The glycerol is neutralized with strong H_2SO_4 at room temp. and the ppt. is filtered off. MeOH is distd. away from the glycerol and the fatty acids are skimmed off; the yield of glycerol is about 94% of the theory, its concn. 97–98%, ash content 2%. More glycerol is recovered by extn. with H_2O from the fatty esters, after distn. of the MeOH. The esters are then saponf. with strong alkali, giving a soap mass contg. 50–60% fatty acids. From this mass, MeOH is recovered by distn. Total recovery of MeOH is 90–97% or better.

N. Thon

KAS'YaNOVA, N. A.

23315 O Prichinakh Temnoy Okraski i Nepriyatnogo Zapakha u Myl, Soderzhashchikh Asidol. Trudy Khak'k. Khim.-Tekhnol. In-Ta im. Kirova, Vyp. 7, 1949, c. 159-68.

SO: LETOPIS' NO. 31, 1949

S/080/61/034/004/012/012
A057/A129

AUTHORS: Kas'yanova, N. A., Nesynov, Ye. P.

TITLE: Preparation of toluene for liquid scintillators

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 4, 1961, 950 - 951

TEXT: A method for the purification of toluene in three steps is described: 1. The pro analysi toluene (ГОСТ (GOST)-5789-51) in an amount of 1 liter was shaken with 50 ml of concentrated H_2SO_4 during 15 - 20 minutes and left to stand for 12 hours. If the sulfuric acid layer was dark, the procedure was repeated. 2. Then the upper layer of toluene was transferred to a chromatographic column, where the impurities were adsorbed. The column was filled with 26 g (3 % of the weight of toluene) "aluminum oxide for chromatographic purposes" and covered with a layer of 60 g (7% of weight of toluene) ground (14 - 200 mesh) silica gel of the КСК (KSK) or АСК (ASK) grades (ГОСТ (GOST) 3958-47). After passing this column, the toluene (having a negative reaction with isatin) was rectified. 3. Rectification was carried out in a column with a cap for complete condenstation described by M. I. Rozengard (Ref. 1: "Tekhnika laboratornoy peregonki i rektifikatsii" ("Techniques of laboratory distillation and rectification"), Goskhimizdat).

Card 1/2

S/080/61/034/004/012/012
A057/A129

Preparation of toluene for liquid scintillators

Small changes were made: the column was heated by indirect steam using a steam jacket; the still of the column was heated in a glycerol bath, which was controlled by a laboratory ЛАТР-9 (LATR-9) autotransformer. The main fraction of toluene was taken at 110.5 - 110.7°C. The yield of purified toluene based on the amount used for mixing with H_2SO_4 was 56 %. Transparency of the product was at λ = 3,600 Å was for a 0.5 m layer in comparison to distilled water 100 %. Toluene purified by the described method corresponded the requirements for solvents for liquid scintillators. The present investigations were necessary, since "pro analysi" toluene produced in the USSR contains some water, thio-compounds and unsaturated substances which extinguish the luminescence of dissolved luminophors and deteriorate the transparency. The present purification method is based on the easy sulfonation of the thio-compounds of the thiophene (in comparison to toluene) and the following separation of the reaction products on the adsorbents. There is 1 figure and 1 Soviet reference.

ASSOCIATION: Khar'kovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov (Khar'kov Branch of the All-Union Scientific Research Institute of Chemical Reagents)

SUBMITTED: April 21, 1958, (initially), November 12, 1960 (after revision)

Card 2/2

KAS'YANOVA, N.A.; KLUBNICHKIN, K.F.; SHKOL'NIKOV, E.M.

Efficiency of treatment with rare metal alloys. Lit.proizv. no.11:37 N '62. (MIRA 15:12)
(Cast iron—Metallurgy) (Rare earth metals)

TADZHIYEV, K.T.; KAS'YANOVA, N.V.; USMANOV, N.U.

Some problems of the treatment of thyrotoxicosis. Zdrav.Tadzh. 10.no.1:32-36 '63. (MIRA 16:7)

1. Iz kafedry obshchey khirurgii (zav.-prof. K.T.Tadzhiyev) Tadzhikskogo meditsinskogo instituta imeni Abuali ibni Sino.
(THYROID GLAND--DISEASES)

FRENKEL', Ye.B., kand tekhn.nauk; KHMEL'NITSKAYA, Ye.G., mladshiy nauchnyy sotrudnik; KAS'YANOVA, R.V., teknolog

Using a steam-air mixture for moisturizing pelts and semifinished sections in furrier work. Nauch.-issl.trudy NIIMP no.10:65-75 '60. (MIRA 14:4)

(Fur--Dressing and dyeing)

FRENKEL', Ye.B., kand. tekhn. nauk; KHOL'NITSKAYA, Ye.G., mladshiy nauchnyy sotrudnik; KAS'YANOVA, R.V.

Use of infrared rays for rabbit pelt drying during the dyeing of raw skins. Nauch. issl. trudy NIIMP no.12:39-45 '63.

Radiation-convection method for drying sheep pelts with the use of gas radiators. Ibid.:45-55 (MIRA 17:11)

FRENKEL', Ye.B.; SHAKHET, G.P.; KAZAS, V.M.; KHMEL'NITSKAYA, Ye.G.; BRUSSER, V.M.; KAS'YANOVA, R.V.

New method of moistening fur skins and cuts in furrier work. Kozh.-obuv.prom. 5 no.1:28-31 Ja '63. (MIRA 16:2)
(Fur—Dressing and dyeing)

MERZON, A.K., dotsent; KAS'YANOVA, T.N.

Materials on comparative evaluation of modern diuretics. Sov. med. 28 no.5:102-110 My '65. (MIRA 18:5)

1. Kafedra propedevticheskoy terapii (zav. - prof. M.I.Frankfurt) lechebnogo fakul'teta Donetskogo meditsinskgo instituta.

MERZON, A.K.; NESTEROVA, L.P.; KAS'YANOVA, T.N.

Use of corticosteroids in cardiac insufficiency. Sov. med. 27 no.12:22-30 D'63 (MIRA 17:4)

1. Iz kafedry propedevticheskoy terapii (zav. - prof. M.I. Frankfurt) lechebnogo fakul'teta Donetskogo meditsinskogo instituta.

KAS'YANOVA, T.N.

Combined use of mercusal and euphyllin. Sov. med. 27 no.12: 89-92 D'63 (MIRA 17:4)

1. Iz kafedry propedevticheskoy terapii (zav. - prof. M.I. Frankfurt) lechebnogo fakul'teta Donetskogo meditsinskogo instituta.

PAVLENKO, I.I., inzh.; ROVENSKAYA, T.V., inzh.; KAS'YANOVA, T.S., inzh.

Macrophotography of graphite to reveal its eutectic grain. Lit. proizv. no.7:44 Jl '65. (MIRA 18:8)

SUKOVATYKH, L.S.; KAS'YANOVA, T.S.

Combined use of thio-TEPA and Au^{198} in treatment of cancer ascites and pleurisy. Vop.onk. 11 no.11:26-28 '65.
(MIRA 19:1)

1. Iz Nauchno-issledovatel'skogo instituta onkologii i meditsinskoy radiologii Ministerstva zdravookhraneniya Belorusskoy SSR (direktor - prof.N.N.Aleksandrov).

V I KASIYANOVA and I N ORLOV

" Preparation of Experimental Cathode-Ray Tubes with Monochromatic Screens 10 Cm in Diameter" from Annotations of Works Completed in 1955 at the State Union Sci. Res. Iust; Min. of Radio Engineering Ind.

So: B-3,080,964

KASYANOVA, V.I. KASJANOVA, V.I.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1835
AUTHOR BLAŽNOVA,E.I., MOKRINCEVA,A.I., KASJANOVA,V.I.
TITLE Luminescent Substances for Colored Television on the basis of ZnS · ZnSe.
PERIODICAL Žurn.techn.fis,26, fasc.12, 2784-2785 (1956)
Issued: 1 / 1957

In the works by GRIGORJEV and in one by the authoresses the possibility was pointed out of using the luminescent substances ZnS . ZnSe for a number of industrial purposes. The method of producing these substances is simple and reliable. In the course of this work the authoresses describe their investigation of these substances as to their applicability for colored television. The composition of the green and red layers of the luminophores is given as well as the reaction when forming the luminophores: $ZnS + SeO_2 \rightarrow ZnS . ZnSe + SO_2$. The ratio of the components of the red and green luminophore layers was empirically selected. Hardening of the luminophores was carried out in the air for one hour at 900° C. The temperature and the flux chosen warranted a production of powders with a very close granulometric composition. Samples of blue, red, and green luminescent luminophores were obtained. The experiment showed that the luminescent color of the luminophores is of sufficient stability in the case of a sufficiently great modification of the state of excitation (anode voltage of from 15 to 20 kV and current density of the beam 0.1 $\mu A.cm^{-2}$ - 4 $\mu A.cm^{-2}$). An important property of the luminophores for colored television is the stabil-

Zurn.techn.fis,26, fasc.12, 2784-2785 (1956) CARD 2 / 2 PA - 1835

ity of their calorimetric parameters during the thermal process of their treatment, which is in connection with the production technique of the cinescope. A table shows the calorimetric parameters before and after heat treatment. Two diagrams show the spectral composition of the radiation of the colored luminophores and the dependence of brightness on the density of the current. The brightness of the luminescent screens of these luminophores changed after 400 hours of operation and at an anode voltage of 15 kV and a current density of the beam of 1 μ A.cm^{-2} by less than 5%.

INSTITUTION:

KAS'YANOVA, V.I.

Using flow-line methods in manufacturing laboratory glassware.
Stek. i ker. 17 no.8:38 Ag '60. (MIRA 13:8)
(Conveying machinery)
(Gus-Khrustalnyy--Glass manufacture)

MERZON, A.K., dotsent; KAS'YANOVA, T.N.

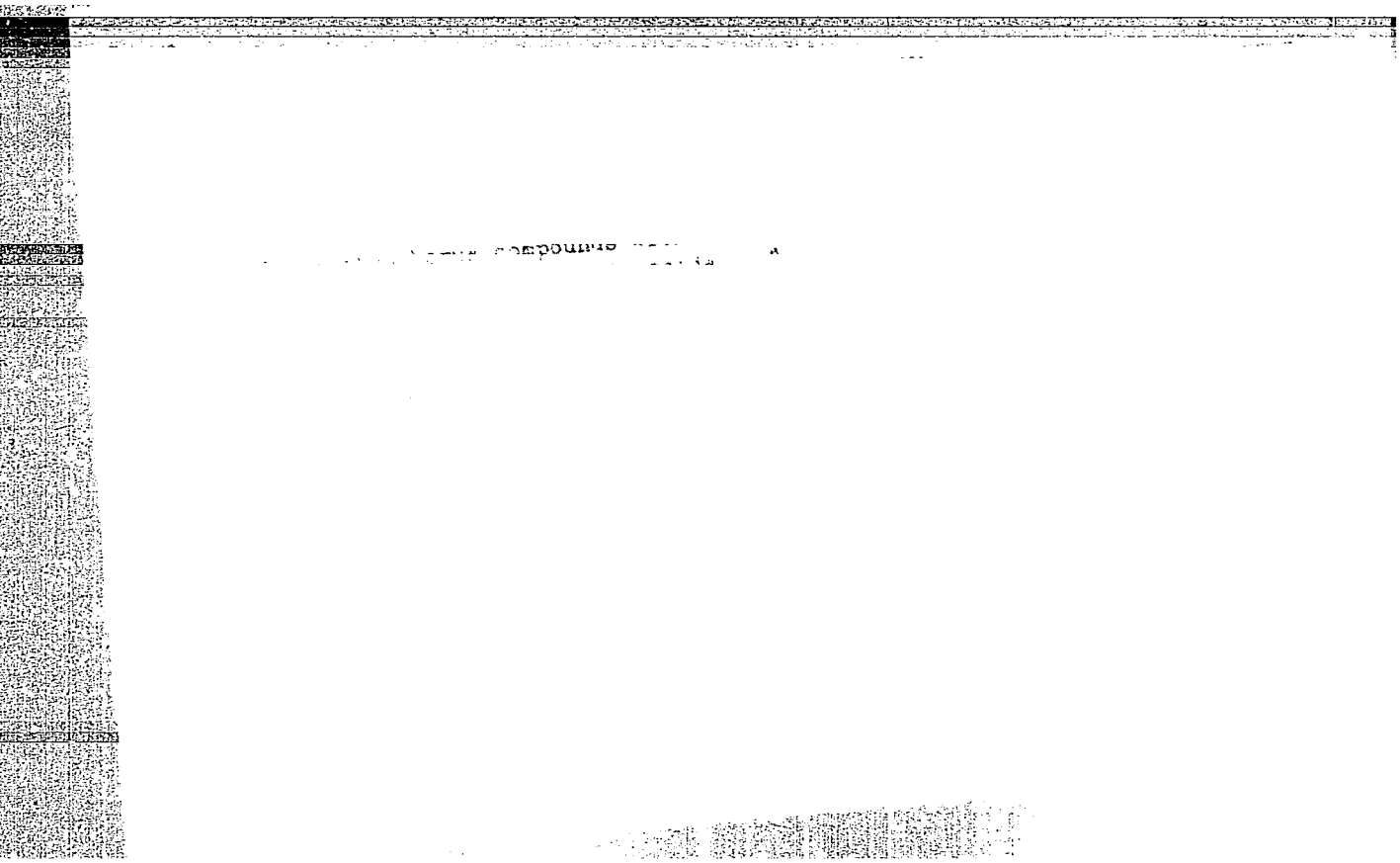
Data on the characteristics of the diuretic action of fonurit.
Terap.arkh. no.8:122 '62. (MIRA 15:12)

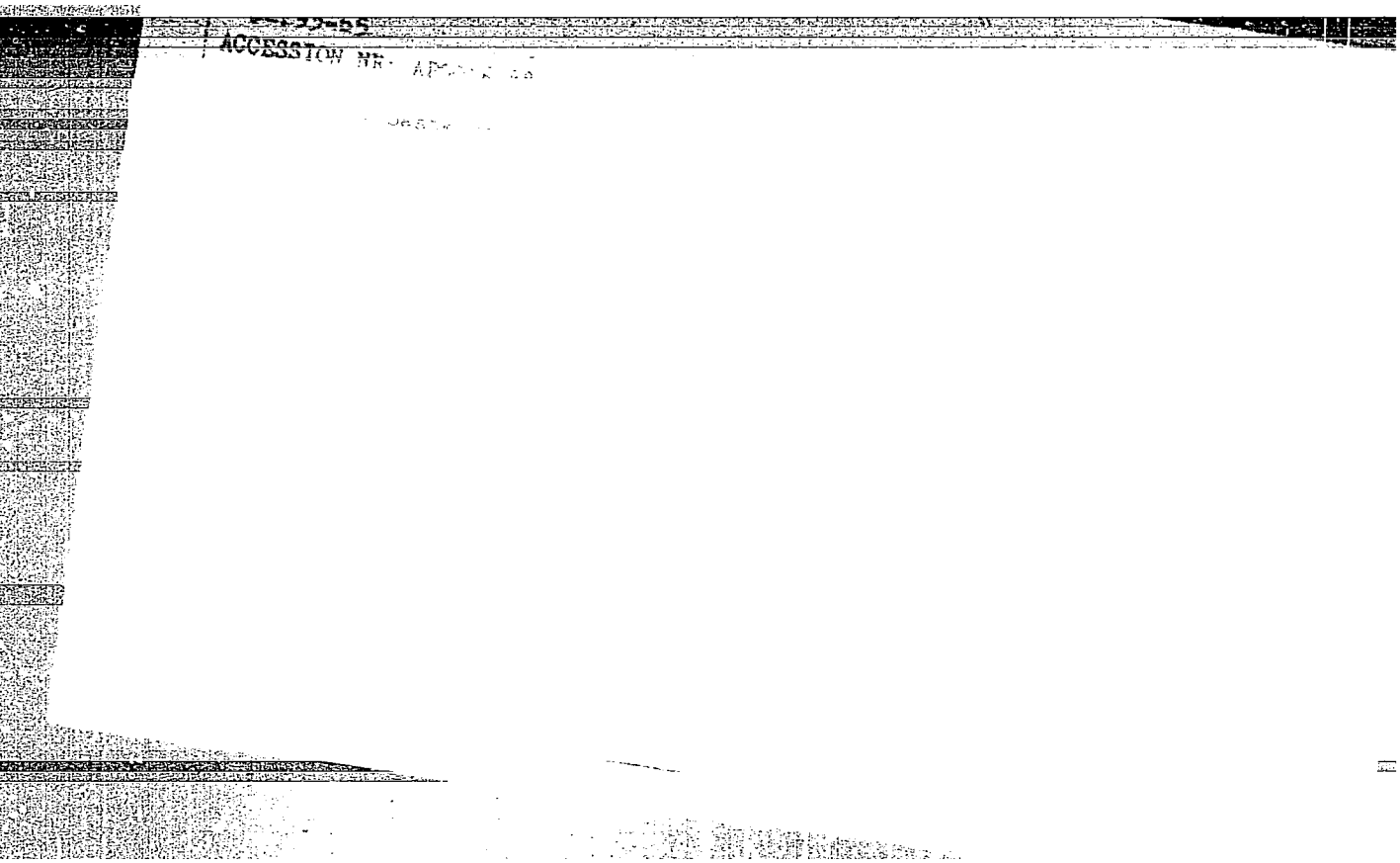
1. Iz kafedry propedevticheskoy terapii lechebnogo fakul'teta (zav. - dotsent M.I. Frankfurt) Donetskogo meditsinskogo instituta.
(THIADIAZOLE SULFONAMIDE)

IMAYEV, M.G.; SHAKIROVA, A.M.; SHIRMANOVA, Ye.P.; KAS'YANOVA, Ye.K.

Organophosphorus compounds with an active methylene group. Part 1: Synthesis of certain β-ketophosphinates. Zhur. ob. khim. 34 no.12:3950-3952 D '64 (MIRA 18:1)

1. Bashkirskiy gosudarstvennyy universitet.





APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721110008-1"

IVANOVA, R.M.; ASHRAFI, R.I.; BURIKOVA, Ye.M.; VITTENBERG, Z.V.; ZARETSKAYA, A.R.; NAZAR'YEVA, M.S.; RAFIYENKO, D.V.; BURAKOVA, G.Ye.; KUTSENKO, I.T.; KAS'YANOVA, Ye.M.; PERSHIN, S.P., inzh.

Observations on the stability of track. Put' i put.khoz. no.10:6-7 O '59. (MIRA 13:2)

1. Studenty Moskovskogo instituta inzhenerov zheleznodorozhnogo transporta (for all except Pershin).
(Railroads--Track)

KAS'YANSKIY, M.S.

"Equipment of the liqueur and vodka plants" by A.M.Dinaburg, I.M.Roiter. Reviewed by M.S.Kas'ianskii. Spirt.prom. 26 no.1: 38-39 '60. (MIRA 13:6)
(Liquor industry--Equipment and supplies)
(Dinaburg, A.M.) (Roiter, I.M.)

KAS'YANYUK, S.

Perevoshchikov, Dmitriy Matveyevich, 1790-1880

Dmitriy Matveyevich Perevoshchikov. Mat. v shkole No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassifie

KAS'YANYUK, S.A. (Kiyev)

Academician E.S.Fedorov's interpretation of Euclidean three-dimensional space. Mat.v shkole no.1:1-8 Ja-F '56.(MLRA 9:4)
(Geometry) (Crystallography, Mathematical)

КАС'ЯНЮК, С.А.

AUTHOR: KAS'YANYUK S.A. (Kiyev) 39-3-3/6

TITLE: On Functions of the Classes A and H_δ in the Circular Ring (O funktsiyakh klassov A i H_δ v krugovom kol'tse)

PERIODICAL: Mat.Sbornik, 1957, Vol. 42, Nr.3, pp.301-326 (USSR)

ABSTRACT: Let $K_z(r;R)$ denote the circular ring $0<r<|z|<R$. A function $f(z)$ regular in $K_z(r;R)$ is denoted to belong to the class A if

$$\frac{1}{2\pi}\int_{-\pi}^{\pi} \ln^+ \left|f(\varrho e^{i\theta})\right| d\theta < K_A(f) < \infty, \qquad r<\varrho<R.$$

Let a function $\varphi(z)$ regular in $K_z(r;R)$ belong to the class H_δ, $\delta>0$, if

$$\frac{1}{2\pi}\int_{-\pi}^{\pi} |\varphi(\varrho e^{i\theta})|^\delta d\theta < K_H(\varphi) \qquad r<\varrho<R.$$

The author uses Blaschke-functions for multiply connected domains and a generalization of the Poisson-Jensen's formula

Card 1/2

Card 2/2

AUTHOR: Kas'yanyuk, S.A. (Kiev) SOV/140-58-1-10/21

TITLE: On a Generalization of the Locally $\mathcal{E}$ - Star-Shaped and Locally $\mathcal{E}$ -Convex Analytic Functions of Yu.D.Maksimov (Ob odnom obobshchenii lokal'no $\mathcal{E}$ -zvezdnykh i lokal'no $\mathcal{E}$ -vypuklykh analiticheskikh funktsiy Yu.D.Maksimova)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Ministerstva vysshego obrazovaniya SSSR, Matematika,1958,Nr 1,pp 103-114 (USSR)

ABSTRACT: Two rather large classes of functions are defined by very numerous data. Certain integral representations are given as necessary and sufficient conditions that a function belongs to these classes. A distortion theorem and a torsion theorem, i.e. estimations for $|f'(z)|$ and $\arg f'(z)$ are proved. Furthermore several other rigorous estimations are given. In the special case one obtains the classes considered by Paatero [Ref 1,4,5] and Maksimov [Ref 7,8,9], as well as results of Reáde [Ref 12] and Renyi [Ref 14]. There are 14 references, 7 of which are Soviet, 3 Finnish, 2 Japanese, 1 American, and 1 Hungarian.

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskiy institut (Kiyev Polytechnic Institute Distinguished With the Lenin Order)

Card 1/2

AUTHOR: Kas'yanyuk, S.A. SOV/140-58-6-11/27

TITLE: On Functions Convex in the Annulus in the Direction of the Imaginary Axis (O funktsiyakh vypuklykh po napravleniyu mnimoy osi v krugovom kol'tse)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 6, pp 105-110 (USSR)

ABSTRACT: In the annulus $r \leq |z| \leq R$ the author considers functions star-shaped in the direction of the real axis and obtains a generalization of the structural formula of Robertson [Ref 2]. Then the author considers functions convex in the annulus in the direction of the imaginary axis, especially such functions with real coefficients. By use of the results due to Li Yen Pir [Ref 5] the author extends some further results of Robertson [Ref 2] to the case of the annulus. There are 6 references, 2 of which are Soviet, 2 American, and 2 Japanese.

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut (Zaporozh'ye Machine-Constructing Institute)

SUBMITTED: February 17, 1958

Card 1/1

KAS'YANYUK, S.A., Cand Phys-Math Sci-s(diss) "Special classes of analytical functions in a circle and a circular ring." Kiev, 1958. 11 pp (Min of Higher Education UkSSR. Kiev Order of Lenin Polytech Inst. Chair of Higher Mathematics), 150 copies (KL,30-50,122)

16(1) SOV/21-59-1-4/26

AUTHOR: Kas'yanyuk, S.A.

TITLE: On the Method of Structural Formulas and the Principle of Conformity of Boundaries in Conformal Mapping (O metode strukturnykh formul i printsipe sootvetstviya granits pri konformnom otobrazhenii)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, Nr 1, 1959, pp 14-17 (USSR)

ABSTRACT: This article contains an analytical formulation of the principle of conformity of boundaries in conformal mapping and establishes the necessary and sufficient conditions imposed on the harmonious function a (u;v), which secure the construction of structural formulas. Applying the theorem of Riss-Gerglots, the article examines the creation of functions of limited conversion, a formula for convex functions and transformations of star and spiral functions. The designations employed are standard mathematical. There are 5 references, 4 of which are Soviet and 1 English.

Card 1/2

SOV/21-59-1-4/26

On the Method of Structural Formulas and the Principle of Conformity of Boundaries in Conformal Mapping

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut (Zaporozh'ye Institute of Machine Construction)

PRESENTED: September 30, 1958, by B.V. Gnedenko, Member of AS Ukr SSR

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16(1) SOV/21-59-2-1/26

AUTHORS: Dunduchenko, L.Ye., and Kas'yanyuk, S.A. (Dunduchenko, L.O and Kas'yanyuk, S.A.)

TITLE: On Analytical Functions Limited in n-Connected Circular Regions (Ob analiticheskikh funktsiyakh, ogranichennykh v n-svyaznykh krugovykh oblastyakh)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 2, pp 111- 15 (USSR)

ABSTRACT: Proceeding from the results of V.A. Zmorovich (Ref 1) the authors establish a structural formula for a class of functions limited in their modulus in the vicinity of the boundary Kn and analytic functions (regular and meromorphic) in an n-connected circular region Kn. A series of exact values was obtained in classes of limited regular functions, also exact evaluations of expressions $f'(z)$ and $\mathrm{Re}\, f(z)$ in the class C(Kn) of functions regular in Kn and possessing a positive real part. Inequality

$$|f(z)| \leq M \prod_{i=1} |H(z; a_i)| \cdot \prod_{s=1}^{m} |H^{-1}(z; b_s)|$$

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analogous to the lemma of Schwarz was examined and made more exact by the author, yet was not shown in final form, in view of its combersomeness. Terms used in the text are standard mathematical. Prearranged designations are: Kn is n-connected monophyllous region obtained from the whole area by the exclusion from it of n circles $|z-Ck| \leq Rk$, $k = 1, 2, \ldots$ n. G k is circle $|z-Ck| = Rk$, Ck is affix of that circle's point. $H(z;a)$, $a \in Kn$ designate a regular and univalent in Kn function, that reflects Kn uponsingle circle cut across (n-1) arc of concentric circles. Function $f(z)$ is regular. $\varphi(z)$ is a regular function in Kn. β is real constant, $H(z;a)$ is defined at 2^0 point. Function h has properties analogous to function H. Four theorems are examined and proved.

On Analytical Functions Limited in n-Connected Circular Regions

There is 1 Soviet reference.

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut (Zaporozh'-ye Institute of Machine Building)

PRESENTED: By B.V. Gnedenko, Member of the AS Ukr SSR

SUBMITTED: October 15, 1958

16(1) SOV/21-59-3-1/27

AUTHORS: Dunduchenko, L.Ye., and Kas'yanyuk, S.A.

TITLE: On Analytical Functions of Limited Boundary Rotation in n-Connected Circular Regions (Ob analiticheskikh funktsiyakh s ogranichennym granichnym vrashcheniyem v n-svyazannykh krugovykh oblastyakh)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 3, pp 227-230 (USSR)

ABSTRACT: Proceeding from the work by V.A. Zmorovich [Ref 1], the authors introduce a class P(Kn) of functions with limited boundary rotation, which generalizes the corresponding class of functions of Paatero [Ref 3] on n-connected circular regions Kn. The obtained exact expressions of values of arguments of functions f'(z) and |f'(z) generalize the before-obtained results when N=2 in the authors versions and when N=1 in Paatero's version. (The consideration of expressions with n=2 has been borrowed by the authors from the text of their lecture at the IV All-Union conference on the theory of functions

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of a complex variable, that took place in Moscow in May 1958). An n-connected synonym of the polygonal formula of Schwarz-Christoffel, applicable in the conformal mapping theory, has been formulated:

wherein $j = 1,2,\ldots,n$; $f(z)$, $j(\ )$ are functions; m_j is number of disruption points of functions $j(\ )$, $_{j,s}$ is a fixed point of circle $Rje^{i} - c_j = Rj$. Other designations are standard mathematical, changing their values according to the character of the aim. Three theorems are considered and proved. There are 3 references, 2 of which are Soviet and 1 Italian.

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ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut (Zaporozh'ye Machine Construction Institute)

PRESENTED: October 27, 1958, by B.V. Gnedenko, Member of the AS UkrSSR

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16(1)

SOV/21-59-5-3/25

AUTHORS: Dunduchenko, L.Ye. and Kas'yanyuk, S.A.

TITLE: On Two Classes of Functions Regular in n-Connected Circular Regions

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 5, pp 468-472 (USSR)

ABSTRACT: This article constitutes a furthering of the authors' work /Ref. 1/ and the authors invite the reader to refer to that work prior to studying this one. Two very general classes $\Gamma_o(K_n)$ and $\Gamma_*(K_n)$ regular in n-connected circular regions of functions are under study, between which there exists a correlation of the Alexander type. Seven theorems are presented. 1) Possibility of expressing the function $f(z)$ of $\Gamma_o(K_n)$ class by its structural formula (3). 2) Contingency of joining the function $\varphi(z)$ to $\Gamma_*(K_n)$ class upon its fitness to be expressed by its

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structural formula (4). 3) The correctness of evaluations (6), (7) and (8), if the function f(z) belongs to $\Gamma_0(K_n)$ class. 4) and 5) The correctness of evaluations (9) and (10) if f(z) is $\Gamma_0(K_n)$. 6) and 7) The correctness of evaluations (11), (12) and (13), if the function $\varphi(z)$ belongs to $\Gamma_*(K_n)$ class. Concretization of the parameters of the above named classes makes it possible to single out most classes of functions which are n-connected analogues of the respective classes of functions, adequately studied in the circle and annulus. There are 7 references, 5 of which are Soviet, 1 US and 1 Japanese.

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut (Zaporozh'ye Machine Building Institute)

PRESENTED: By B.V. Gnedenko, Member of the AS UkrSSR

SUBMITTED: October 27, 1958

16(1) SOV/21-59-7-2/25

AUTHOR: Dunduchenko, L.G. / (Dunduchenko, L.Ye.) and Kas'yanyuk, S.A.

TITLE: On Blaszke's Function for n-Connected Circular Regions

PERIODICAL: Dopovidi Akademii Nauk Ukrains'koi RSR, 1959, Nr 7 pp 699-701 (UkrSSR)

ABSTRACT: An n-connected analogue of Blaszke's function is constructed for an n-connected circular region K_n and a well-known theorem

$$\lim_{\rho \to r} \frac{1}{2\pi} \int_0^{2\pi} \ln \left[f(\rho e^{i\theta}) \right] d\theta < +\infty$$

is generalized for region K_n: for every function $f(z)$, analytical in K_n, $f(z) \neq 0$, the zeroes of which form a sequence with densification points on the border of K_n, a Blaszke function $b(z)$ may be constructed, and and the function itself may be presented in the form $f(z) = b(z)\,\Phi(z)$, where $\Phi(z)$ is a single-value function regular in K_n, which is not reduced to zero at any point $z \in K_n$. There are 7 mathematic formulas

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On Blaszke's Function for n-Connected Circular Regions

and 1 Soviet reference.

ASSOCIATION: Zaporiz'kyy mashynobudivnyy instytut (Institute of Machine-Building of Zaporozh'ye)

PRESENTED: B.V. Gnedenko, Member AS UkrSSR

SUBMITTED: January 22, 1959

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SOV/21-59-9-4/25

16(1)

AUTHORS: Dunduchenko, L.O. and Kas'yanyuk, S.A.

TITLE: On Classes of Functions of Limited Form in n-Connected Circular Regions

PERIODICAL: Dopovidi Akademiyi nauk Ukrayins'koyi RSR, Nr 9, 1959, pp 945-948 (USSR)

ABSTRACT: In this paper, the authors discuss the functions regular in Kn of a limited form of classes A and H_p ($p > 0$) The following structural formula of class A has been established generalizing V.I. Smirnov's well-known result for n-connected circular regions:

$$f(z) = e^{-\alpha + i\beta} B(z) \times \exp\left\{\frac{1}{2\pi} \sum_{j=1}^{n} \int F_j(z, \xi_j) \ln p_j(\theta) d\theta\right\} \times$$

$$\times \exp\left\{\frac{1}{2\pi} \sum_{j=1}^{n} \int F_j(z, \xi_j) d\omega_j(\theta)\right\},$$

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whereby β stands for constant; $\zeta_j(z, \xi_j)$ - function which reflects the n -connected circular region K_n on the right half-plane with sections along segments parallel to the imaginary axis [Ref 4]; such inseparable function whose logarithms $\ln p_j(\theta)$ are added to the segment $[0, 2\pi]$; $\omega_j(\theta)$ function of a limited variation with a derivative which equals zero almost everywhere on the segment $[0, 2\pi]$; $b(z)$ function of Blashke, constructed according to the zeros of the function $\zeta(z)$. There are 5 Soviet references.

ASSOCIATION: Zaporiz'kyy mashynobudivnyy instytut (Zaporozh'ye Machine Building Institute)

16(1) SOV/41-11-1-5/12

AUTHOR: Kas'yanyuk, S.A. (Zaporozh'ye)

TITLE: On Functions Bounded With Respect to the Absolute Value Within a Circular Ring

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 1, pp 52-65 (USSR)

ABSTRACT: Let $K_z(q;1)$ be the ring $q < |z| < 1$.

Theorem: Let $f(z)$ be regular in $K_z(q;1)$, there $|f(z)| \leq 1$. Then

$$|f'(z)| \leq \frac{1}{|z|} \cdot \frac{1}{1-|z|^2} \prod_{k=1}^{\infty} \left\{ \frac{(1-q^{2k})^2}{(1-q^{2k}|z|^2)(1-\frac{q^{2k}}{|z|^2})} \right\}.$$

Similar estimations are given for the absolute value of the derivative if the function is regular in $K_z(q;1)$ and its real part is positive or bounded or if the function is ≤ 1 with respect to its absolute value and has no zeros in $K_z(q;1)$. The author discusses the possibility to introduce other conditions instead of the condition $|f(z)| \leq 1$. Furthermore the author considers the functions $f(z)$ unique in $K_z(q;1)$, regular, and everywhere

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different from zero, for which $\int_{|z|=\varrho} \frac{f'(z)}{f(z)}\,dz = \int_{|z|=\varrho} \frac{\ln f(z)}{z}\,dz = 0$,

$q<\varrho<1$, and there exists $L_f = \frac{1}{2\pi}\int_{\Gamma} \ln|f(z)|\, d \arg f(z)$; Γ is the boundary of $K_z(q,1)$. For these functions it holds:

$$|f(z)| \leq e^{\frac{L_f}{c}} \frac{1}{(1-|z|^2)^{c/2}} \prod_{p=1}^{\infty} \frac{1}{\left\{(1-q^{2p}|z|^2)\left(1-\frac{q^{2p}}{|z|^2}\right)\right\}^{c/2}}, \quad c>0.$$

The estimation is strong. The author mentions Yu.Ye.Alenitzyn, G.M.Goluzin, A.F.Bermant, L.I.Kolbina, M.P.Remizova, aspirant of the Kiyev Polytechnical Institute, and V.A.Zmorovich.
There are 13 references, 9 of which are Soviet, 2 American, and 2 German.

SUBMITTED: January 14, 1957
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16(1)

AUTHOR: Kas'yanyuk,S. SOV/39-47-1-7/8

TITLE: Letter to the Editor (Pis'mo v redaktsiyu)

PERIODICAL: Matematicheskiy sbornik, 1959,Vol 47, Nr 1, pp 141-142 (USSR)

ABSTRACT: The author corrects his elaborations "On the Functions of the Class A and H_ξ in the Annulus" (Matematicheskiy sbornik 1957, Vol 42, pp 300-326 (USSR)). In essential the correction consists in the modification of the construction of the Blaschke-function and leads to a new formulation of the theorem 4 of the paper given above.

SUBMITTED: August 25, 1958

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DUNDUCHENKO, L.Ye. [Dunduchenko, L.O.]; KAS'YANYUK, S.A.

On n-connected analogs of certain theorems in classes of regular functions of a limited type. Dop.AN URSR no.1: 13-16 '60. (MIRA 13:6)

1. Zaporozhskiy mashinostroitel'nyy institut. Predstavleno akademikom AN USSR B.V.Gnedenko [B.V.Hniedenko].
(Functions)

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AUTHOR : Kas'yanyuk, S.A.

TITLE: On Some Subclasses of Convex and Star-Shaped Conformal Mappings of an Annulus

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1960, No. 6, pp. 126 - 139

TEXT: Let the classes u_q^* and u_q^o of functions regular in the annulus $K_z(q^2 ; 1)$, $q^2 < |z| < 1$, be defined by the structural formulas

$$(1.1)\quad f(z) = z \exp\left\{-\frac{\alpha}{\pi}\int_{-\pi}^{\pi} \ln\psi(z ; \theta)\,d\mu(\theta)\right\} \text{ - class } u_q^*$$

$$(1.2)\quad F(z) = \int_{q^2}^{z} \exp\left\{-\frac{\alpha}{\pi}\int_{-\pi}^{\pi} \ln\psi(\xi ; \theta)\,d\mu(\theta)\right\} d\xi \text{ - class } u_q^o ,$$

where

$$(1.3)\quad \psi(z; \theta) = \frac{1 - ze^{-i\theta}}{1 - \frac{q^2}{z} - e^{i\theta}} ,$$

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$0 < \alpha \leq 1$, $\mu(\theta)$ belongs to the class M of real functions decreasing on $[-\tilde{\pi}, \tilde{\pi}]$ which are normed by the conditions

(1.4) $$\mu(-\tilde{\pi} + 0) = \mu(-\tilde{\pi}) \; ; \; \int_{-\tilde{\pi}}^{\tilde{\pi}} d\mu(\theta) = 2\tilde{\pi} \; ;$$

ln denotes the main branch of the function; the integral is a Stieltjes integral.

Theorem 1 : For mappings of the annulus $K_z(q^2 \; ; \; 1)$ by functions of the class u_q^* there hold the strong estimations

(2.1) $$\frac{(r + q^2)^{2\alpha}}{r^{2\alpha-1}(1 + r)^{2\alpha}} \leq |f(z)| \leq \frac{(r - q^2)^{2\alpha}}{r^{2\alpha-1}(1 - r)^{2\alpha}}, \qquad \begin{matrix} |z| = r \; , \\ q^2 < r < 1 \end{matrix}$$

for mappings of $K_z(q^2 \; ; \; 1)$ by functions of u_q^o there hold the strong estimations

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$$(2.2)\quad \int_q^r \frac{(x+q^2)^{2\alpha}}{x^{2\alpha}(1+x)^{2\alpha}}\,dx \leq |F(z)| \leq \int_q^r \frac{(x-q^2)^{2\alpha}}{x^{2\alpha}(1-x)^{2\alpha}}\,dx, \quad |z| = r,\ q^2<r<1,$$

The equal sign holds only for the functions

$$(2.3)\quad f_0(z) = \frac{(ze^{-i\vartheta}-q^2)^{2\alpha}}{z^{2\alpha-1}(1-ze^{-i\vartheta})^{2\alpha}},\quad -\pi \leq \vartheta \leq \pi,$$

and

$$(2.4)\quad F_0(z) = \int_q^z \frac{(\zeta e^{-i\vartheta}-q^2)^{2\alpha}}{\zeta^{2\alpha}(1-\zeta e^{-i\vartheta})^{2\alpha}}\,d\zeta,\quad -\pi \leq \vartheta \leq \pi$$

Theorem 2 (theorem on distortion): For mappings of $K_z(q^2; 1)$ by functions of the classes u_q^* and u_q^0 there hold the strong estimations

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$$(2.10)\quad \frac{(r+q^2)^{2\alpha}}{r^{2\alpha}(1+r)^{2\alpha}} \leq |F'(z)| \leq \frac{(r-q^2)^{2\alpha}}{r^{2\alpha}(1-r)^{2\alpha}}, \quad |z|=r, \quad q^2<r<1$$

for u_q^0 and

$$\left\{(1-2\alpha)+\alpha\left[\frac{1-r}{1+r}+\frac{r-q^2}{r+q^2}\right]\right\}\times$$

$$\times\frac{(r+q^2)^{2\alpha}}{r^{2\alpha}(1+r)^{2\alpha}} \leq |f'(z)| \leq \frac{(r-q)^{2\alpha}}{r^{2\alpha}(1-r)^{2\alpha}}\times$$

(2.14)

$$\times\left\{(1-2\alpha)+\alpha\left[\frac{1+r}{1-r}\quad\frac{r+q^2}{r-q^2}\right]\right\}, \quad |z|=r, \quad q^2<r<1$$

for u_q^*. For $q\to 0$ the inequations (2.14) yield the distortion theorem

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for star functions of α-th order

$$\frac{1-2\alpha}{(1+r)^{2\alpha}} + \frac{2\alpha}{(1+r)^{2\alpha+1}} \leq |f'(z)| \leq \frac{1-2\alpha}{(1-r)^{2\alpha}} + \frac{2\alpha}{(1-r)^{2\alpha+1}}, \quad |z| = r < 1 \tag{2.15}$$

Theorem 3 : For mappings of $K_z(q^2 ; 1)$ by functions of the class u_q^0, the curvature $K_r(\vartheta)$ of the image of the circle $z = r e^{i\vartheta}$, $q^2 < r < 1$, $-\pi \leq \vartheta \leq \pi$, for every ϑ satisfies the inequations

$$k_r(0)_{min} \leq k_r(\vartheta) \leq k_r(0)_{max} \tag{2.16}$$

where

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$$k_r(0)_{max} = \frac{(1-r^2)^{\alpha} r^{2\alpha-1}}{(r^2-q^4)^{\alpha}} \quad \frac{\mathrm{sh}\,\tau - \mathrm{sh}\,\tau_q}{\tau + \tau_q} \times$$

(2.17)
$$\times \exp\left\{-1 + \alpha(\tau + \tau_q) + (\tau + \tau_q) \frac{1 - 2\alpha + \alpha(e^{-\tau} + e^{\tau_q})}{\mathrm{sh}\,\tau - \mathrm{sh}\,\tau_q}\right\},$$

(2.18) $$k_r(0)_{min} = r^{2\alpha-1} \frac{(1-r)^{2\alpha}}{(r-q^2)^{2\alpha}} \times \left\{1 - 2\alpha + \alpha\left[\frac{1+r}{1-r} + \frac{r+q^2}{r-q^2}\right]\right\}$$

(2.19) $$\tau = \ln \frac{1+r}{1-r}, \quad \tau_q = \ln \frac{r-q^2}{r+q^2}$$

The equal sign in (2.16) holds only for

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